UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

August 18, 1999

<u>MEMORANDUM</u>

SUBJECT: Probabilistic Acute Dietary Exposure Estimates for Dimethoate
                PC Code: 035001 DP Barcode D258752. No MRID. Rereg. Case No.
                2675

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                and

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ACTION REQUESTED

Special Review and Registration Division (SRRD) has requested that the Health Effects Division
(HED) perform an acute tier 3 (probabilistic) dietary exposure risk assessment for dimethoate to
support reregistration of this chemical. SRRD asked that this acute assessment be performed
using data from the Pesticide Data Program (PDP) testing of foods for dimethoate, incorporating
a statistical method (Allender, H. "Use of the Pesticide Data Program (PDP) in Acute Dietary
Assessment," EPA interim guidelines, August 1998) which would permit wider use of the PDP

data. More widespread use of PDP has not been possible in the past for acute assessment because the PDP program analyses composited samples, while acute risk assessment should use information about the residues on individual servings.

Tolerances are established for total residues of the insecticide dimethoate and its oxygen analog omethoate (40 CFR 180.204). The EPA had earlier conducted a Tier 1 assessment of the acute dietary risk for dimethoate using the Dietary Risk Evaluation System, DRES, (Brian Steinwand, memo to Mike Metzger, March 1997). The Margin of Exposure (MOE) values (all below 40) indicated a concern, given that an acceptable MOE is 100 or greater. A limited Tier 2 analysis was conducted in HED to refine the DRES assessment and to try to determine which commodities were significant contributors to exposure. HED was not able to make this determination using DRES system. In addition, rerunning the DRES analysis using anticipated residues (AR) was not expected to significantly further refine the acute dietary risk. HED, therefore recommended that the registrant(s) conduct an acute probabilistic (Monte Carlo) analysis to address acute dietary concerns. The submission was reviewed (Sahafeyan, M.; DP Barcode: D249135, Jan. 29, 1999) and deemed unacceptable primarily because of the exclusion of some commodities in the assessment which are presently registered and included on the labels. Consequently, at the request of SRRD, an in-house acute probabilistic risk assessment was performed with the emphasis on the wider use of monitoring data by utilizing the Agencies own statistical method that would allow estimating the residues on single-serving units of foods from composited monitoring data. The results of that assessment is the subject of this present document.

EXECUTIVE SUMMARY

The probabilistic acute dietary exposure risk assessment for dimethoate in foods was conducted using the toxicological end point of NOAEL = 2 mg/kg/day, PDP and FDA residue data and the 1989-1992 USDA Continuing Surveys of Food Intake by Individuals (CSFII) database. When appropriate, the newly proposed statistical method was used to convert (decomposite) the PDP and FDA composite residue data to the residues that reflected pesticide concentrations on single-serving units of foods. No truncation was performed on any of the decomposited data in this assessment.

The DEEM evaluations were performed with and without cooking factors. The results for both assessments showed estimated dietary exposure for the U.S. population and all its sub-populations are below the level of concern (100% aPAD). The range of estimated dietary exposure in one assessment (all the crops were included and cooking factors were incorporated) was from 21% aPAD for female 13+/nursing to 86% aPAD for children 1-6 sub-population. The estimated dietary exposure for the U.S. population in that assessment was 41% aPAD. The range changed only minimally when the cooking factors were not incorporated in the assessment, (28% aPAD - 97% aPAD); the least and most exposed sub-populations remained the same. The estimated dietary exposure in that assessment for the U.S. population was 49% aPAD.

TOXICOLOGICAL INFORMATION

The acute dietary NOAEL for dimethoate was recently changed from 0.06 mg/kg/day to 2.0 mg/kg/day. Initially, the Hazard Identification Assessment Review Committee (HIARC) selected a NOAEL of 2 mg/kg/day for absence of pupil response in rats from an acute oral study in rats for use in acute dietary and short- and intermediate-term occupational risk assessment. When the HIARC met to reevaluate all the organophosphates (07/07/98) in consideration of cholinesterase enzyme inhibition (ChEI) as a common mechanism of toxicity, the acute dietary endpoint was changed to be based on a NOAEL of 0.06 mg/kg/day for ChEI from a subchronic rat study. However, on further examination, a weight-of-the-evidence analysis of the database showed that a NOAEL = 2 mg/kg/day is indeed appropriate for the time frame of an acute dietary endpoint based on a number of studies, several of which included measurements for ChEI (HIARC meeting 06/29/99). In addition, HIARC recommended that a 10X uncertainty factor for enhanced susceptibility of sensitive sub-populations be removed based on weight-of-the-evidence consideration. The acceptable Margin Of Exposures (MOEs) for acute dietary risk assessment for dimethoate are greater than 100 (10X uncertainty factor for inter and 10X uncertainty factor for intraspecies).

It should be noted that the NOAEL of 0.06 mg/kg/day would probably be used for a cumulative dietary risk assessment for organophosphate pesticides.

Table 1: Summary of Toxicology endpoints selection for dimethoate			
Exposure Duration	**Exposure Route**		**End points**
		Effect	
Acute - RfD	Dietary	ChEI of brain, RBC& plasma at the LOAEL Absence of Pupil response	NOAEL = 2 mg/kg/day, based on sub-chronic study in rats. aPAD = 0.02 mg/kg/day
Chronic - RfD	Dietary	ChEI of brain & RBC at the LOAEL	NOAEL = 0.05 mg/kg/day. LOAEL of 0.25 mg/kg/day for brain and RBC ChEI in both sexes. 2-Yr chronic feeding study in rats. UF of 100 applied for intra & inter species differences. aPAD = 0.0005 mg/kg/d

DATA

I) Consumption Data

For consumption data, the 1989-1992 USDA Continuing Surveys of Food Intake by Individuals (CSFII) database was used.

II) Residue Data

Extensive monitoring data for dimethoate and omethoate from the USDA Pesticide Data Program (PDP) and the FDA Surveillance Monitoring Program are available. The PDP data are generally preferred over FDA data for use in dietary exposure and risk analyses. The USDA PDP was specifically designed for risk assessment; analysts prepare samples in a manner similar to typical consumer practices, such as washing, coring/pitting, and/or peeling. The 20 lb surveillance samples are collected by FDA for tolerance enforcement purposes, and are not washed or peeled prior to analysis; in addition, FDA samples are collected in the channels of commerce, and often represent "farm gate" residues. The PDP samples are 5 lb composites collected at large-scale distribution centers, just prior to sale in grocery stores, and are more likely to reflect "dinner plate" residues. In this assessment it was attempted to use monitoring data (versus field trial data) as much as possible.

Methodology for Combining Residues of Dimethoate and Omethoate - The monitoring programs (PDP and FDA) analyze for dimethoate (parent compound) and omethoate (metabolite) separately. Since the tolerance expression includes both dimethoate and omethoate, the residues of parent and its metabolite had to be summed for use in the dietary risk assessment. Different scenarios were possible (e.g. a tomato sample may be analyzed for one compound but not for the other or it may have a detected residue for one and not for the other). Procedures in the following table were used in determining the residue values to be inserted in the dietary exposure analyses.

Table 2 - Procedure used for adding dimethoate and omethoate for different scenarios		
Dimethoate Value Reported	**Omethoate Value Reported**	**Suggested Treatment**
Detect	Detect	Dimethoate detect + Omethoate Detect
Detect	Non-Detect	Dimethoate Detect + ½ LOD for Omethoate for that sample
Non-Detect	Detect	1/2 LOD for Dimethoate for that sample + Omethoate Detect

Dimethoate Value Reported	Omethoate Value Reported	Suggested Treatment
Non-Detect	Non-Detect	½ LOD for Dimethoate for that sample + ½ LOD for Omethoate for that sample
Detect	Not analyzed	Detect for Dimethoate + Detect (same value) for Omethoate
Non-Detect	Not analyzed	½ LOD for Dimethoate for that sample + ½ average LOD for Omethoate for that commodity
Not Analyzed	Detect	Detect for Omethoate + Detect (same value) for Dimethoate
Not Analyzed	Non-Detect	½ LOD for Omethoate for that sample + ½ average LOD for Dimethoate for that commodity

Methodology for Using Composite Monitoring Data - Decompositing Procedure - The monitoring residue data (PDP and/or FDA), when available, were used for each commodity. When the commodity was considered blended (i.e., large-scale mixing on national level), or partially-blended (i.e., mixing at local farms, local distribution centers, etc.), the monitoring data were used directly; otherwise (for non-blended commodities) a statistical method was used to decomposite the data. The decompositing procedure was comprised of two steps. In the first step, the parameters (average and standard deviation) of the distribution function for population of single-serving residues were estimated from the detected composite data. In the second step, 1000 single serving residue values were generated (by Crystal Ball software) from the distribution of single-serving residues. The generated data were subject to truncation at high values if they exceeded the theoretical worst case scenario (i.e. the highest residue in the original composite data would be due to the residue on only one of the units of the food in the composite). However, no truncation was performed on any of the decomposited data in this assessment. The decompositing method required at least 30 detected residues for each commodity. When the number of detected residues from the most recent monitoring data for a particular commodity were not sufficient, the monitoring data from previous years, were combined to provide an adequate number of data (>= 30) for the decompositing procedure. When the detected residues were near LOD (less than LOQ ~ 3 X LOD), the monitoring data were used directly (not decomposited); the Agency guidelines were followed (Interim Guidance, March 1999, Mike Metzger). The detail description of assumptions, estimations, and procedure used for each commodity are given later in this report.

III) Processing Factors:

a) Processing Studies - Processing studies that were submitted and accepted by the Agency (Bonnie Cropp-Kohlligian, DP Barcode Nos: D205591, D206804, D206555, and D213099,

11/6/95) include citrus (orange juice, dried citrus pulp), field corn, cottonseed, grapes, potatoes, soybeans, tomatoes, and wheat. The processing factor(s) that were used for these commodities in this assessment are listed below:

Citrus (Orange): juice (0.2X)

Corn: grits (0.4X), meal (0.4X), flour (0.4X), refined oil-all types (0.3 X)

Cottonseed: meal (1.3X), refined oil (0.6X)

Grapes (MRID 00075590, and 00075637): The results of these studies suggest that the residues of dimethoate and omethoate do not concentrate in grapes-raisins and grapes-wine. Therefore, the PF of 1 was used for both grapes-raisins and grapes-wine.

Potato: granules (0.25X), chips (0.25X), dry peel (0.9X).

Soybean: Soybean processing data are not required based on field trial data (MRID 00075577) demonstrating that dimethoate residues of concern in/on soybeans were below the LOQ after treatment with dimethoate at an exaggerated application rate (5X).

Tomato: juice (<0.1X), puree (1.5X), paste (2.6X), catsup (1.6X).

Wheat: Residues of dimethoate and omethoate were below LOQ for bran, middlings, shorts, low-grade flour, and patent flour processed from treated wheat grain.

For all other commodities the DEEM default PFs were used.

b) Kitchen-Processing Studies - The Agency identified several studies in the open literature that investigated the effect of kitchen-processing on concentrations of dimethoate residues in foods. (DeVito, S., "Interim Memorandum on the Effect of Peeling, Washing or Cooking on Concentrations of Dimethoate in Foods", July 2, 1999). Based on the results of these studies, a cooking factor of 0.7 (i.e., 30% reduction of residues by cooking) for any cooked form of vegetables and fruits, and a cooking factor of 0.8 (i.e., 20% reduction of residues by cooking) for any cooked forms of grains were applied in the calculation of the second assessment (Table 6 in the Results section). Since most residue data for vegetables and fruits used in this assessment were from PDP monitoring data, and these type of data are obtained from washed and peeled (where appropriate) fruits and vegetables, no washing or peeling reduction factors were generally used in this risk assessment. No cooking studies for dimethoate in meat were found. A cooking study of several other organophosphate pesticides in meat was found, and showed that cooking causes decomposition of the substances tested. Based on the results of this study, a cooking factor of 0.7 (i.e., 30% reduction of residues by cooking) for any cooked form of meat was applied in the calculation of the second assessment (Table 6 in the Results section).

c) Citrus-Juice /concentrates - Since the only available PF for citrus juice was that of orange to orange juice (PF = 0.2X), this PF was used in the calculation of PFs for other citrus-juices and juice concentrates. However, for orange-juice itself, since the PDP data for orange juice was available and used in the RDF (instead of resorting to data for orange), the PF was set to 1 for orange juice in this assessment. The PDP data for orange juice was also translated to grapefruit-juice/concentrate, lemon-juice/concentrate and tangerine-juice/concentrate. To calculate the PFs for other citrus-juice/concentrates the PF of 1 (for orange-juice when PDP data for orange-juice was used), in combination with different ratios of DEEM default PFs, were therefore used. These calculations are shown in the following Table.

Table 3 - Calculation of processing factors for citrus-juice/concentrates.				
Commodity	**Data Source**	**DEEM Default PF (from whole fruit)**	**Calculation**	**PF used (result of the calculation)**
Orange-juice	PDP for Orange-juice	1.8	1	1
Orange-juice-concentrate	PDP for Orange-juice	6.7	1 X (6.7 / 1.8)	3.7
Grapefruit-juice	PDP for Orange-juice	2.1	1 X (2.1 / 1.8)	1.2
Grapefruit-juice-concentrate	PDP for Orange-juice	8.26	1 X (8.26 / 1.8)	4.6
Lemon-juice	PDP for Orange-juice	2	1 X (2 / 1.8)	1.1
Lemon-juice-concentrate	PDP for Orange-juice	11.4	1 X (11.4 / 1.8)	6.3
Tangerine-juice	PDP for Orange-juice	2.3	1 X (2.3 / 1.8)	1.3
Tangerine-juice-concentrate	PDP for Orange-juice	7.35	1 X (7.35 / 1.8)	4.1

IV) Percent Crop Treated

The maximum percent crop treated estimates from BEAD August, 1998 report were used for all the crops in this assessment. The following Table lists the average and maximum %CT estimates reported by BEAD in August 1998.

Table 4- Estimated average and maximum %CT reported by BEAD (August 1998).

CROP	% CT (1998)	
	(Weighted Average)	(Maximum)
Apples	7.4	14.9
Beans (Dry)	3.8	7.0
Beans (Succulent)	13.3	19.6
Blueberries	-------	------
Broccoli	28.8	37.9
Cabbage	16.9	24.8
Cantaloupes	10.5	12.7
Casabas	24.4	48.8[2]
Cauliflower	22.4	38.4
Celery	-------	------
Cherries	5.7	8.7
Hot Pepper	3.0	10.4
Collard	25.4	40
Field Corn	0.4	0.7
Cottonseed	5.2	9.9
Endives / Lettuce	28.2	58.5
Grapefruits	4.3	8.5
Grapes, Grapes (wine)	6.5	13
Greens	13.0	51.6
Kale	------	-----
Lemons	25.4	58.4

CROP	% CT (1998)	
	(Weighted Average)	(Maximum)
Lentils	------	------
Melons	8.0	18.3
Oranges	4.6	9.7
Pears	1.8	5.6
Peas, Green	26.8	56.8
Dry Peas	2.2	8.4
Peas, Green, Proc.	16.1	29.5
Pecans	11.6	19.4
Sweet Peppers	13.6	47.3
Potatoes	1.9	3.5
Safflower	18.7	41.1
Sorghum	0.7	1.3
Soybeans	0.3	0.6
Spinach	8.3	17.2
Tangerines	10.8	21.9
Tomatoes (fresh), Tomatoes (proc.)	10.1, 28.4	18.3, 60
Turnips, Roots	------	------
Turnips, Tops	------	------
Watermelons	6.2	8.2
Wheat, Wheat (spring), Wheat (winter)	1.8	7.6

Table 4- Estimated average and maximum %CT reported by BEAD (August 1998).

V) **Translation of Data**

When the total number of samples or total number of detected residues in monitoring data for a

particular crop was not sufficient[1], the monitoring data from another crop (from the list of "Permissible Crop Translations for Pesticide Monitoring Data" Interim Memo, May 1999) was translated to the previous crop.

RESIDUE INFORMATION

I) <u>Brassica Leafy Vegetables</u>

Broccoli - There were 13 samples with detected residues from 680 total samples in the 1994 PDP data with all detects being near the LOD (range of combined dimethoate and omethoate detects = 0.0065-0.036 ppm, weighted average LOD = 0.02 ppm). In the FDA data there was only one sample with detected residue (0.16 ppm, LOD=0.02 ppm) from 296 total samples. Since PDP and FDA data can not be combined, the PDP data with the greater number of samples were used for broccoli. The RDF contained 13 detects, 422 zeros, and 245 repeated ½ LOD values at 0.01 ppm which was the weighted average of all LODs. The estimated value of 37.9% CT (from BEAD) was used.

Brussels Sprouts - No PDP data were available for brussels sprouts. Although detected residues were reported in FDA data from 1992, 1993, 1996, and 1998, since the total number of samples for all the four years combined (14) was <u>below</u> what has been determined by the Agency to be statistically adequate (100), those data could not be used. Therefore, the 1994 PDP data for head lettuce was translated to brussels sprouts. Since brussels sprouts are considered to be a partially-blended commodity, the PDP data for head lettuce were not decomposited. The estimated value of 100% CT was also assumed in the assessment since there was no %CT estimate for brussels sprouts from BEAD. Therefore, the RDF for brussels sprouts contained 101 detects, 590 repeated ½ LOD values at 0.011 ppm, and no zeros.

Cauliflower- No PDP data were available for cauliflower. No detected residues (out of 246 total samples) were reported in the FDA data from 1992 to 1997. Therefore, the RDF for cauliflower contained 38 repeated ½ LOD values at 0.01 ppm (based on 38.4%CT estimate from BEAD and LOD of 0.02 ppm in FDA data) and 62 zeros.

Cabbage - No PDP data were available for cabbage. In FDA data only 4 detected residues (total number of samples = 467, range of combined dimethoate and omethoate detects = 0.0393-0.61 ppm, weighted average LOD = 0.02 ppm) were reported from 1992 to 1997. These detected values were significantly greater than the LOD and thus could not be assumed to be negligible. The PDP data for head lettuce could not be surrogated for cabbage as the use patterns for the two

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[1]Total number of samples $\geq$ 100 was required. If decomposing was needed, total detected residues $\geq$ 30 was required.

commodities were different. Therefore, the tolerance of 2 ppm and 25% CT for fresh market cabbage (cabbage, chinese celery/bok choy, cabbage-green and red, and cabbage-savoy) and 61% CT for processed cabbage, according to 1998 BEAD report, were used in this assessment. The RDF for fresh market cabbage contained 75 zeros and 25 repeated tolerance values (2 ppm). The RDF for processed cabbage (partially blended commodities) contained 39 zeros and 61 repeated tolerance values at 2 ppm.

Collards - No PDP data were available for collards. In FDA data only 5 detected residues (total samples = 145, Max detected value = 1.84 ppm, weighted average LOD = 0.02 ppm) were reported from 1992 to 1997. These detected residue values were significantly above LOD and thus could not be assumed to be negligible. Since collards are considered to be a partially-blended commodity, the FDA data were used directly and the 40% CT value (from BEAD) was incorporated in the RDF. The RDF contained 5 detects, 87 zeros, and 53 repeated ½ LOD values at 0.01 ppm.

Kale - No PDP data were available for kale. In FDA data only one detected residue (total samples = 112, detected value = 0.15 ppm, weighted average LOD = 0.02 ppm) was reported from 1992 to 1997. This detected value was significantly above the LOD and thus could not be assumed to be negligible. Since kale is considered to be a partially-blended commodity, the FDA data were used directly. The value of 100% CT was used for kale in this dietary risk assessment since no %CT was listed for kale in 1998 BEAD report. The same value was used by the registrant in the previous submission. Therefore, the RDF contained one detect, no zeros, and 111 repeated ½ LOD values at 0.01 ppm.

Mustard Greens - No PDP data were available for mustard greens. In FDA data, 4 detected residues (total samples = 84, Max detected value = 0.126 ppm, weighted average LOD = 0.02 ppm) were reported from 1992 to 1997. These detected values were significantly above LOD and thus could not be assumed to be negligible. Since the total number of samples in the FDA data were <u>below</u> what has been determined by the Agency to be statistically adequate (100 samples), those data could not be used. Therefore, data from spinach which has a similar use pattern, were surrogated for mustard greens. The value of 51.6% CT was used according to 1998 BEAD report. Since mustard greens are considered to be a partially-blended commodity, the PDP data for spinach were used directly (no decompositing) and the RDF for mustard greens contained 66 detects, 247 zeros, and 199 repeated ½ LOD values at 0.008 ppm.

II) <u>Cereal Grains</u>

Field Corn- No PDP data were available for field corn. FDA analyzed only 79 samples of field corn between 1992 and 1997 with no detected residues reported. Since the total number of samples in FDA data were <u>below</u> what has been determined by the Agency to be statistically adequate (100 samples), those data could not be used. Therefore, the tolerance of 0.1 ppm was used. Since field corn (grain) is considered a blended commodity, the tolerance was multiplied by the %CT estimate (1% from BEAD) and the result (0.001 ppm) was used as a point estimate in DEEM for corn grain, corn bran, corn endosperm, corn grain oil, corn sugar, and corn sugar

molasses. The PF of 0.4 and 0.3 (from submitted processing studies) for corn-endosperm and corn-grain oil were used respectively (see section on processing factors). The DEEM default PFs were used for the rest.

Pop Corn-   No PDP data were available for popcorn. FDA analyzed only 61 samples of popcorn between 1992 and 1997 with no detected residues reported. Since the total number of samples in FDA data were <u>below</u> what has been determined by the Agency to be statistically adequate (100 samples), those data could not be used. Therefore, the tolerance of 0.1 ppm was used. Since popcorn (grain) is considered a blended commodity, the tolerance was multiplied by the %CT estimate (1%CT from BEAD field corn was assumed and applied) and the result (0.001 ppm) was used as a point estimate in DEEM.

Sorghum - No PDP data were available for sorghum. FDA analyzed only 3 samples of sorghum in 1993 with no detected residues reported. Since the total number of samples in FDA data were <u>below</u> what has been determined by the Agency to be statistically adequate (100 samples), those data could not be used. In addition, field trial data for dimethoate and omethoate in sorghum grain (10 samples at 1X the maximum seasonal rate) were below LOD = 0.02 ppm (Bonnie Cropp-Kohlligian, DP Barcode: D205590, MRID: 43279802). Since sorghum is considered a blended commodity, the ½ LOD value from field trial data (0.01 ppm) was multiplied by the %CT estimate (1%CT from BEAD) and the result (0.0001 ppm) was used as a point estimate in DEEM.

Wheat - No detected residues were reported in PDP and FDA data (1992-1997, total samples = 142 samples). Since wheat grain, germ, bran, flour, and rough are considered blended commodities, a point estimate (½ LOD value of 0.01 ppm based on LOD of 0.02 ppm in FDA data) was used in this assessment for wheat and its food forms.

III) <u>Citrus Fruits</u>

Grapefruit - No PDP data were available for grapefruit. In the FDA data, one detected residue (total samples = 151, detected value = 0.05 ppm, weighted average LOD = 0.02 ppm) was reported from 1992 to 1997. This detected value was near LOD and therefore the FDA data were used directly (no decompositing), with non-detected values assumed to be at ½ LOD = 0.01 ppm for the treated portion of the commodity. The BEAD estimate of 8.5% CT was incorporated. The RDF contained 1 detect, 139 zeros, and 11 repeated ½ LOD values at 0.01 ppm. For grapefruit juice and grapefruit juice concentrate, which are considered partially-blended commodities, PDP data for orange juice were used. The PFs of 1.2 and 4.6 were used for grapefruit juice and grapefruit juice concentrate respectively(see calculation in Table 3).

Oranges - Orange 1994-1996 PDP data (total samples=1914, 28 detects, range of combined dimethoate and omethoate detects = 0.008-0.050 ppm, weighted average LOD = 0.022 ppm) were decomposited and 1000 values were generated. The BEAD estimate of 9.7% CT was used. The RDF (with decomposited data) was applied to orange peel and orange-peeled fruit. The RDF contained 1000 detects, 61727 zeros, and 5631 repeated ½ LOD values at 0.011 ppm. For canned and frozen food forms of orange which are considered partially-blended commodities, a separate

RDF was constructed where PDP data were used directly with 9.7% CT being incorporated (28 detects, 1728 zeros, and 158 ½ LOD values at 0.011 ppm). Since no PF was available for orange peels, the factor of 46x based on the processing study for similar chemical, methidathion, was used (W. Smith, D228746, 12/3/96).

Orange Juice - No detected residues were reported in the PDP database (1997 data, total sample = 692) or in the FDA database (1992-1997, total sample = 68) for orange juice. Since orange juice and orange juice concentrate are considered partially-blended commodities, an RDF containing no detects, 90 zeros, and 10 repeated ½ LOD values at 0.008 ppm (based on 9.7% CT estimate and weighted average LOD of 0.016 in PDP data) was constructed in this assessment for these commodities. Because the RDF was based on the data which directly sampled orange juice, no PF was used for orange juice. However, since this data was also applied to orange juice concentrate, a PF of 3.7, based on the ratio of DEEM PFs for orange juice and orange juice concentrate (6.7/1.8 = 3.7) was used for orange juice concentrate (see Table 3).

Lemons - No PDP data were available for lemons. In the FDA data, 2 detected residues (total samples = 131, detected values = 0.31 ppm and 0.0217 ppm , weighted average LOD = 0.02 ppm) were reported from 1992 to 1997. These detected values were significantly above LOD and thus could not be assumed to be negligible. The use pattern for lemons however was similar to oranges and therefore the orange decomposited data were used for lemons. The estimated value of 58.4% CT (according to 1998 BEAD report) was incorporated in the assessment. The RDF for not-blended food forms of lemons contained 1000 detects, 28437 zeros, and 38921 repeated ½ LOD values at 0.011 ppm. For lemon peels (partially-blended commodity) and partially-blended food forms of lemons-peeled fruit, separate RDF from direct PDP data for orange with incorporating the 58.4% CT was constructed (28 detects, 796 zeros, 1090 repeated ½ LOD values at 0.011 ppm).

Lemon Juice - No PDP data were available for lemon juice. Additionally, the FDA only analyzed one sample in 1997 with no detected residues found. Since the use patterns for lemons and oranges were the same, the PDP data for orange juice were used for lemon juice incorporating the 58.4% CT. Therefore, the RDF contained no detects, 42 zeros, and 58 repeated ½ LOD values at 0.008 ppm (based on weighted average LOD values in PDP data for orange juice). The PFs of 1.1 and 6.3 were used for lemon-juice and lemon-juice concentrate respectively(see Table 3 for calculation).

Tangerines/Tangelos - No PDP data were available for tangerines. The FDA analyzed only 27 samples between 1992 and 1997 with no detected residues reported. Since the total number of samples in FDA data were <u>below</u> what has been determined by the Agency to be statistically adequate (100 samples), those data could not be used. Therefore, since the use patterns for tangerines and oranges were similar, the decomposited orange PDP data were surrogated for tangerines. The 21.9% CT estimate from BEAD was used. The RDF for not-blended food forms of tangerines/tangelos contained 1000 detects, 53387 zeros, 13970 repeated ½ LOD values at 0.011 ppm. For partially-blended food forms of tangerines/tangelos, separate RDF from direct

PDP data for orange with incorporating 21.9% CT was constructed (28 detects, 1495 zeros, and 391 repeated ½ LOD values at 0.011 ppm).

Tangerine Juice - No PDP or FDA data were available for tangerine juice.   Since the use patterns for tangerines and oranges were the same, the PDP data for orange juice were surrogated for tangerine juice with incorporating the 21.9% CT. The RDF contained no detects, 78 zeros, and 22 repeated ½ LOD values at 0.008 ppm. The PFs of 1.3 and 4.1 were used for lemon-juice and lemon-juice concentrate respectively (see Table 3 for calculation).

IV) Cucurbits

Melons - No PDP data were available for melons. The FDA reported 7 detected residues from 1992 to 1997 for cantaloupe (total samples = 388, max detected residue = 0.105 ppm, LOD = 0.02 ppm), one detected residue for watermelon (total samples = 383, detected value = 0.26 ppm, LOD = 0.02 ppm), and one detected residue for honeydew melons (total samples = 77, max detected residue = 0.014 ppm, LOD = 0.02 ppm). These detected values were significantly above LOD and thus could not be assumed to be negligible. However, since the number of detected residues were not large enough (minimum of 30 required) for decompositing treatment, the FDA data could not be used.   In addition, there were no other similar crops with similar use patterns that could be surrogated for melons. Therefore, the tolerance of 1 ppm and 12.7% CT, 18.3% CT, 48.8% CT, and 8.2% CT were used for cantaloupes, melons, melons (honeydew) and watermelons respectively in this dietary risk assessment. Four RDFs were constructed based on the different % CT of melons; i.e., the RDFs contained the tolerance value repeated 13, 18, 49, and 8 times with the number of zeros to make the total data 100 in RDFs. For melon juices, since they are considered partially-blended commodities, the same RDFs as for their corresponding melons were used.

V) Fruiting Vegetables

Sweet Peppers - No PDP data were available for sweet pepper. FDA, however, reported 32 detected residues from 1992 to 1997 for sweet pepper (total samples = 366, range of detects = 0.0132 - 2.00 ppm, LOD = 0.02 ppm). The FDA data were decomposited and used in this assessment. A 47.3% CT estimate was used according to the 1998 BEAD report. The RDF for not-blended food forms of sweet pepper contained 1000 detects, 6028 zeros, and 4410 repeated ½ LOD values at 0.01 ppm.   The RDF for partially-blended food forms of sweet pepper contained 32 detects, 193 zeros, and 141 repeated ½ LOD values at 0.01 ppm. The RDF was applied to peppers-sweet (garden), peppers-other, and pimientos.

Hot Peppers - No PDP data were available for hot peppers. FDA analyzed only 72 samples of hot peppers between 1992 to 1997 with only one detected residue reported (0.04 ppm). Since the total number of samples in FDA data were <u>below</u> what has been determined by the Agency to be statistically adequate (100 samples), those data could not be used. Therefore, the decomposited tomato PDP data (1996-1997) were surrogated for hot pepper. The value of 10.4% CT was used according to the 1998 BEAD report. The RDF for not-blended food forms of hot peppers

contained 1000 generated detects, 29236 zeros, and 2393 repeated ½ LOD values at 0.007 ppm. The RDF for partially-blended food forms of hot peppers contained 27 detects, 789 zeros, and 65 repeated ½ LOD values at 0.007 ppm. The RDF was applied to peppers-chilli including jalapeno.

Tomatoes-Whole - The 1996-1997 PDP data for tomatoes (total samples = 881, number of detects=27, range of detects = 0.008 - 0.04 ppm, weighted average LOD = 0.014 ppm) were decomposited. The value of 18.3% CT was used according to the 1998 BEAD report. The RDF for not-blended food forms of tomatoes-whole contained 1000 generated detects, 26658 zeros, and 4971 repeated ½ LOD values at 0.007 ppm. The RDF for partially-blended food forms of tomatoes-whole contained 27 detects, 720 zeros, and 134 repeated ½ LOD values at 0.007 ppm.

Tomatoes, Processed - The original 1996-1997 PDP data (not decomposited) for tomatoes, with incorporating the 60% CT estimate from BEAD, were used to develop a point estimate (0.0025 ppm) for processed tomatoes which are considered blended commodities. Those included tomatoes-catsup, tomatoes-dried, tomatoes-juice, tomatoes-paste, and tomatoes-puree. The PFs of 1.6 for catsup, 0.1 for tomato juice, 2.6 for tomato paste, and 1.5 for tomato puree were applied (DP Barcode: D213099, MRID: 43554401, Bonnie Cropp-Kohlligian). The DEEM default PF of 14.3 was used for tomatoes-dried.

VI) Legume Vegetables

Peas-succulent - No PDP or FDA data for fresh green or succulent peas were available. Therefore, the PDP data for green beans from 1994-1995 (total samples = 1178, number of detects = 93, range of detects = 0.0065-1.76, weighted average LOD = 0.018 ppm) were used for all types of peas. Since peas are considered to be a partially-blended commodity, the data were used directly (no decompositing). The value of 56.8% CT for green peas was used according to the 1998 BEAD report. The RDF was applied to peas (garden)-green, and peas- succulent / blackeye. The RDF contained 93 detects, and 507 zeros and 578 repeated ½ LOD values at 0.009 ppm.

Peas-dry - No PDP or FDA data were available for dried peas. Therefore, the 1994-1995 PDP data for green beans were translated to peas-dry. Since dried peas are considered to be a blended commodity, the PDP data for green beans were used to calculate a point estimate for dried peas (0.015 ppm). The value of 8.4% CT was used according to the 1998 BEAD report.

Beans-succulent - Since beans are considered to be a partially-blended commodity, the 1994-1995 PDP data for green beans were used directly (no decompositing; total samples = 1178, number of detects = 93, range of detects = 0.0065-1.76, weighted average LOD = 0.018 ppm). The value of 19.6% CT for green beans was used according to the 1998 BEAD report. The RDF was applied to the following types of beans: succulent-broadbeans, succulent-green, succulent-hyacinth, succulent-lima, succulent-other, succulent-yellow/wax, and beans-unspecified. The RDF contained 93 detects, 947 zeros, and 138 repeated ½ LOD values at 0.009 ppm.

Beans (dry) - No PDP or FDA data were available for dried beans. Since dried beans were considered to be blended commodities, the 1994-1995 PDP data for green beans were used to

calculate a point estimate for dried beans (0.015 ppm). The value of 7.0% CT was used according to the 1998 BEAD report. The RDF was applied to the following dried beans: broad, garbanzo / chick pea, great northern, hyacinth, kidney, lima, navy, other, pigeon beans, and pinto beans**.**

Lentils[4] - No PDP data or FDA data were available for lentils. The 1994-1995 PDP data for green beans were used for lentils. The values of 57% CT (for succulent peas) was used according to the 1998 BEAD report. Since lentils are considered to be a blended commodity, the PDP data for green beans were used to calculate a point estimate for lentils (0.018 ppm).

Soybeans - No detected residues were found in PDP data for soybeans (1997, omethoate not sampled, total samples = 159 for dimethoate, LOD =0.005). Nor was there found any detected residues in the FDA data (1992-1997, total samples = 72). Since soybeans are considered to be a blended commodity, a point estimate of 0.01 ppm (based on LOD of 0.02 ppm in FDA data) was used in this assessment for soybeans and its food forms which include soybean flours (defatted, full fat, and low fat), mature seeds (dry), soybean oil, sprouted seeds, protein isolate, and soybean-other. The DEEM default PFs were used for soybean-sprouted seed (0.33).

VII) Leafy Vegetables

Celery - No detected residues were reported in the 1994 PDP data (total samples = 311) or in the 1992-1997 FDA data (total samples = 21) for celery . Since there was no other similar crop with similar use pattern that could be surrogated for celery, a RDF containing 5 repeated ½ LOD values at 0.01 ppm (based on 5%CT and LOD of 0.019 ppm in PDP data) and 95 zeros was used in this assessment. No value for % CT was cited in the 1998 BEAD report. Therefore, the registrant proposed 5% CT value was used. Since celery juice was considered to be a partially-blended commodity, the same RDF that was used for celery was also used for celery juice (95 zeros, 5 repeated ½ LOD values). The DEEM default PF of 1 was used for celery juice.

Endive (escarole) - No PDP data were available. There was only one detected residue in the 1992-1997 FDA data (total samples= 142, detected residue = 0.058 ppm, LOD= 0.02 ppm). Since endive is considered to be a partially-blended commodity, the detected value was used directly in the assessment. The estimated value of 58.5% CT (for lettuce) from BEAD was used. The RDF contained 1 detect (0.058ppm), 59 zeros, and 82 repeated ½ LOD values at 0.01 ppm.

Head Lettuce - Decomposited 1994 PDP data (total samples =691, number of detects = 101, range of detects for combined dimethoate and omethoate residues = 0.0045 - 0.28 ppm; weighted average LOD = 0.022 ppm) were used; 1000 values were generated and used in the RDF. The value of 58% CT for head lettuce, and 42.4% CT for lettuce-other (unspecified), according to the 1998 BEAD report were used in this assessment. The RDF for lettuce-head contained 1000 generated detects, 2839 zeros, and 3002 repeated ½ LOD values at 0.011 ppm. The RDF for lettuce-other (unspecified) contained 1000 generated detects, 3941 zeros, and 1901 repeated ½

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[4] The tolerance for lentils is revoked. The established tolerance for peas applies to lentils.

LOD values at 0.011 ppm. Since canned lettuce-unspecified is considered to be a partially-blended commodity, direct PDP data were used for this food form. The RDF contained 101 detects, 398 zeros, and 192 repeated ½ values LOD at 0.011 ppm.

Leaf Lettuce - No PDP data were available for leaf lettuce. There were 46 detected residues reported in the 1992-1997 FDA data (total samples = 843, range of detects for combined dimethoate and omethoate residues = 0.02 - 1.7 ppm, LOD = 0.02 ppm). Since leaf lettuce is considered to be a partially-blended commodity, the FDA data were used directly. The value of 52.1% CT was used according to the 1998 BEAD report. The RDF contained 46 detects, 393 zeros, and 404 repeated ½ LOD values at 0.01 ppm.

Spinach - The 1997 PDP data for spinach (total samples = 512, number of detected residues = 66; range of detects for combined dimethoate and omethoate residues = 0.008 - 2.66 ppm; weighted average LOD = 0.016 ppm) were used. The value of 17.2% CT was used according to the 1998 BEAD report. Since spinach was considered a partially-blended commodity, the PDP data for spinach were used directly (no decompositing) and the RDF contained 66 detects, 424 zeros, and 22 repeated ½ LOD values at 0.008 ppm.

Swiss Chard - No PDP data were available for swiss chard. There was only one detected residue in the 1992-1996 FDA data (total samples = 21, detected residue = 0.056 ppm, LOD = 0.02 ppm). Since the total number of samples that the FDA data analyzed were below 100, the FDA data could not be used. Consequently, spinach data were translated to swiss chard. Since no % CT estimate was reported by BEAD for swiss chared, the 17.2% CT estimate for spinach was also used for swiss chard. The RDF was, therefore, the same as that used for spinach (66 detects, 424 zeros, and 22 repeated ½ LOD values at 0.008 ppm).

VIII) Pome Fruits

Apples - For fresh apples (single-serving), the 1998 PDP data for single-serving pear (total samples = 160, number of detects = zero, weighted average LOD = 0.017 ppm) were translated to apples incorporating 14.9% CT for apples. This was done because the use patterns for both crops were the same except the pre-harvest interval (for pear was 28 days versus 35 days for apples). The constructed RDF contained 85 zeroes and 15 repeated ½ LOD values at 0.008 ppm. For partially-blended food forms of apples (dried, canned, and frozen), the PDP data from 1994 to 1996 (total samples = 1910, number of detects = 145, range of detects = 0.005 - 0.538 ppm, weighted average LOD = 0.023) were used directly. The estimated 14.9% CT value according to the 1998 BEAD was incorporated into the RDF. Therefore, the RDF for partially-blended commodities contained 145 detects, 1625 zeros, and 140 repeated ½ LOD values at 0.011 ppm. Since dried apples are considered to be a blended-processed commodity, a point estimate (average of the all the data in RDF for the partially-blended food forms = 0.0052 ppm) was made. The DEEM default PF of 8 was used for the apples-dried.

Apple Juice/Cider/Concentrate - The 1997 PDP data for apple-juice (total samples = 683, number of detects = 187, range of detects for combined dimethoate and omethoate residues = 0.003- 0.064 ppm, weighted average LOD = 0.015 ppm) were used. Since the percent of detected residues (27%) were more than the maximum %CT estimate from BEAD (14.9%), no ½ LOD value was incorporated into the RDF. Since apple juice/cider/concentrate are considered partially-blended commodities, direct PDP data were used. The RDF contained 187 detected residues and 496 zeros. The DEEM default PF of 3 was used for apple juice-concentrate.

Pears - For fresh pears (single-serving), the 1998 PDP data for single-serving pear (total samples = 160, number of detects = zero, weighted average LOD = 0.016) were used with incorporation of 5.6% CT for pears. Therefore, the RDF contained 6 repeated ½ LOD values at 0.008 ppm and 94 zeros. Furthermore, the RDF was applied to all food forms of pears (uncooked, cooked, baked, boiled, canned) as well as pear-juice since they are considered to be either not-blended or partially-blended commodities. However, for pears-dried which is considered a blended commodity, a point estimate (average of the data in the RDF, 0.0005 ppm) was used. The DEEM default PF of 6.25 was used for dried pear.

IX) <u>Root and Tuber Vegetables</u>

Potatoes - Only one dimethoate residue (0.005 ppm) was reported as a detect in the 1994-1995 PDP data for potatoes (total samples = 694). No detected residues were found in the 1992-1997 FDA data (total samples = 1228; LOD = 0.02 ppm). Therefore, an RDF containing 96 zeros and 4 repeated 1/2 LOD values at 0.01 ppm (based on 3.5% CT estimate from BEAD and LOD = 0.02 ppm in FDA data) was used in this assessment. The RDF was applied to potatoes-dry, potatoes-peel, potatoes-peeled, potatoes-unspecified and potatoes-whole (all being white potatoes). For dry potatoes (a blended commodity), the value of 0.0004 (1/2 LOD X %CT) was used as a point estimate. The PFs of 0.25, 0.25, and 0.9 were used for potatoes/white-dry, potatoes/white-peeled and potatoes/white-peel-only respectively(DP Barcode: D205591, MRID: 43288202, Bonnie Cropp-Kohlligian).

Sweet Potatoes - No detected residues were reported in the 1995-1996 PDP data for sweet potatoes (total samples = 695) or the 1992-1997 FDA data (259 total samples). Therefore, an RDF containing 96 zeros and 4 repeated 1/2 LOD values at 0.01 ppm (based on 3.5% CT estimate from BEAD and LOD = 0.02 ppm in FDA data) was constructed for sweet potatoes..

Turnips - No PDP data were available for turnips (roots or tops). There were 3 detected residues in the 1992-1996 FDA data for turnip roots (total samples = 35, max = 0.145 ppm, LOD = 0.02 ppm) and 6 detected residues in the 1992-1997 FDA data for turnip green (total samples = 57, max = 0.993, LOD = 0.02 ppm) . These detected residue concentrations were considerably larger than LOD, and therefore could not be assumed to be negligible. However, since the total number of samples in FDA data were <u>below</u> what has been determined by the Agency to be

statistically adequate (100 samples), those data could not be used. Furthermore, there were no crops that could be translated to turnips - no crop was found that had similar use patterns with more than 30 detected residues in its monitoring data. Therefore, the tolerance of 2 ppm and 100% CT (in absence of % CT for turnips from BEAD and as was assumed by the registrant in the previous submission) for turnip roots and tops were used in the assessment.

X) <u>Small Fruits and Berries</u>

Blueberries - No PDP data or FDA data were available for blueberries. Therefore the tolerance of 1 ppm (import tolerance) and 85% CT (based on % import from Canada) were used in this assessment. The RDF for blueberries, which is considered to be a partially-blended commodity, contained 15 zeroes and 85 repeated tolerance values at 1 ppm.

Grapes - Grapes, grapes-leaves, and grapes-raisins are considered to be a partially-blended commodities and hence, the 1996 PDP data for grapes (total samples =525, number of detects = 106, range of total data = 0.003 - 0.089 ppm, weighted average LOD = 0.015 ppm) were used directly (no decompositing) in RDF. No ½ LODs were used since the percentage of detected residues (19%) was higher than the 13.0% CT reported from the 1998 BEAD report. Therefore, the RDF included 106 detected residues and 419 zeroes. The DEEM default PF of 4.3 was used for grapes-raisins.

Grapes-Juice/Concentrate and Grapes-Wine/Sherry - No PDP data were available for grape juice. In the 1992-1997 FDA data, only 48 (total) data for grape juice were cited with no detected residues found. However, since the total number of samples (48) were below 100, this data could not be used. Since grape juice is considered to be a partially-blended commodity, the RDF which was constructed for grapes was also applied to grapes-juice/concentrate. The DEEM default PF of 1.2 and 3.6 were used for grapes-juice and grapes-juice-concentrate respectively.

XI) <u>Stone Fruits</u>

Cherries - No PDP data were available for cherries.   The FDA reported 33 detected residues in its 1992-1997 data (total samples = 410, range of total data : 0.01-1.02 ppm, detected residues = 33, LOD = 0.02 ppm). The estimated value of 8.7% CT from BEAD was used for cherries. Since cherries and cherries-juice are considered to be partially-blended commodities, the RDF contained 374 zeros, 33 detects, and 4 repeated ½ LOD values at 0.01 ppm. For cherries-dried, which was considered a blended commodity, the average of the data in the RDF for cherries was used as a point estimate (0.018 ppm). The DEEM default PFs of 1.5 and 4 were used for cherries-juice and cherries-dried respectively.

XII) <u>Tree Nuts</u>

Pecan - No PDP data were available for pecans. There were no detected residues in the 1994 FDA data (total samples = 1). No data from other crops with similar use patterns that could be

translated to pecans were available. Therefore, since pecans are considered to be a partially-blended commodity, the tolerance of 0.1 ppm and 19.4% CT (from 1998 BEAD report) were used to construct the RDF for pecans. The RDF contained 80 zeroes and 20 repeated tolerance values at 0.1 ppm.

XIII) Other Crops

Cottonseed- No PDP data or FDA data were available for cottonseed. In addition, no other crops with similar use patterns that could be translated to cotton could be found. Therefore, since cottonseed meal and cottonseed oil are considered to be blended commodities, the tolerance of 0.1 ppm and 9.9% CT were used to calculate a point estimate (0.1 x 10% = 0.01 ppm). The PF of 1.33 was used for cottonseed meal and 0.6 for cottonseed oil (Bonnie Cropp-Kohlligian, DP barcode: D206804, 2/15/96).

Safflower - No PDP data or FDA data were available for safflower. In addition, no other crops with similar use patterns that could be translated to safflower could be found. Therefore, since safflower is considered to be a blended commodity, the tolerance of 0.1 ppm and 41.1% CT were used to calculate a point estimate (0.1 x 41.1% = 0.041 ppm) for residues in safflower-seed and safflower-oil which were considered blended commodities.

Asparagus - No PDP data were available for asparagus. No detected residues were reported in the FDA data from 1992-1997 (total sample = 166). Therefore, since asparagus is considered to be a blended commodity, a point estimate of 0.01 ppm (based on the LOD = 0.02 ppm from FDA data) was used in this assessment for asparagus. A RDF was not generated since no estimate of %CT was reported by BEAD and therefore 100%CT was assumed.

XIIII) Livestock Commodities

Beef / Goat / Horse / Sheep / Veal - No PDP data or FDA data were available for the meat category. The tolerance value of 0.02 ppm and 41.1% CT based on the highest % CT for any feed item (safflower) was used in the RDF. Therefore, the RDF contained 41 repeated tolerance values at 0.02 ppm and 59 zeroes.

Milk - No detected residues were reported in the 1996-1997 PDP data for milk (total samples = 1297, weighted average LOD : 0.002 ppm) or in limited FDA data from 1992-1997 (less than 20 total samples) for dimethoate and omethoate in a variety of milk and milk-based products. The highest % CT among the dairy feed items was for safflower, which was 41.1%. This value was used as % CT for milk. Therefore, a RDF containing 41 repeated ½ LOD values at 0.001 ppm (based on weighted average LOD values in PDP data) was used in this assessment.

Pork - No PDP data or FDA data were available for pork. The tolerance value of 0.02 ppm and 41.1% CT based on highest % CT for any feed item (safflower) were used in the RDF. Therefore, the RDF contained 59 zeroes and 41 repeated tolerance values at 0.02 ppm.

Eggs/Poultry - No PDP data or FDA data were available for eggs and poultry. The tolerance value of 0.02 ppm and 7.6% CT based on highest % CT (that of wheat) were used in the RDF. Therefore, the RDF contained 92 zeros and 8 repeated tolerance values at 0.02 ppm.

RESULTS AND DISCUSSION

The results of the DEEM evaluations with and without any cooking factors are depicted in Tables 5 and 6, respectively. As it is seen from the two tables, the dietary exposure for the U.S. population and all its sub-populations are below the level of concern (<100% aPAD at the 99.9th percentile). The range of estimated dietary exposure in one assessment (all the crops were included and cooking factors were incorporated) was from 21% aPAD for female 13+/nursing sub-population to 86% aPAD for children 1-6 sub-population. The estimated dietary exposure for the U.S. population in that assessment was 41% aPAD. The range changed only minimally when the cooking factors were not incorporated in the assessment, (28% aPAD - 97% aPAD); the least and most exposed sub-populations remained the same.   The estimated dietary exposure in that assessment for the U.S. population was 49% aPAD.

Table 5 - Results of the acute probabilistic dietary risk assessment for dimethoate for all the commodities. <u>All</u> cooking factors were incorporated.						
Population / Sub-population	**95th Percentile**		**99th Percentile**		**99.9th Percentile**	
	Exposure (mg/kg/day)	**%aPAD**	**Exposure (mg/kg/day)**	**%aPAD**	**Exposure (mg/kg/day)**	**%aPAD**
US (all season)	0.000355	1.77	0.003127	15.64	0.008229	41.14
All Infants (<1 year)	0.000350	1.75	0.001307	6.53	0.006265	31.32
Nursing Infants (<1 year)	0.000113	0.56	0.000958	4.79	0.004723	23.61
Non-nursing Infants (<1 year)	0.000406	2.03	0.001450	7.25	0.006748	33.74
Children (1-6 years)	0.000540	2.70	0.004169	20.85	0.017287	86.43
Children (7-12 years)	0.000260	1.30	0.002693	13.47	0.007316	36.58
Females (13+/preg/not nsg)	0.000206	1.03	0.003669	18.34	0.005813	29.07
Females (13+/nursing)	0.000774	3.87	0.003609	18.05	0.004246	21.23
Females (13-19 yrs/np/nn)	0.000163	0.82	0.002613	13.06	0.011232	56.16
Females (20+ years/np/nn)	0.000377	1.89	0.003328	16.64	0.007348	36.74

Population / Sub-population	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure (mg/kg/day)	%aPAD	Exposure (mg/kg/day)	%aPAD	Exposure (mg/kg/day)	%aPAD
Females (13-50 years)	0.000193	0.97	0.002913	14.56	0.008488	42.44
Males (13-19 years)	0.000271	1.35	0.002471	12.36	0.005630	28.15
Males (20+ years)	0.000326	1.63	0.002922	14.61	0.006078	30.39
Seniors (55+)	0.001203	6.01	0.003610	18.05	0.007099	35.50
Pacific Region	0.000619	3.10	0.003057	15.28	0.007651	38.26

Table 6 - Results of the acute probabilistic dietary risk assessment for dimethoate for all the commodities. No cooking factor was incorporated.

Population / Sub-population	95th Percentile		99th Percentile		99.9th Percentile	
	Exposure (mg/kg/day)	%aPAD	Exposure (mg/kg/day)	%aPAD	Exposure (mg/kg/day)	%aPAD
US (all season)	0.000421	2.11	0.003900	19.50	0.009748	48.74
All Infants (<1 year)	0.000375	1.87	0.001421	7.10	0.007004	35.02
Nursing Infants (<1 year)	0.000141	0.71	0.000985	4.92	0.004873	24.37
Non-nursing Infants (<1 year)	0.000445	2.23	0.001614	8.07	0.007605	38.02
Children (1-6 years)	0.000645	3.23	0.005132	25.66	0.019331	96.66
Children (7-12 years)	0.000316	1.58	0.003340	16.70	0.009278	46.39
Females (13+/preg/not nsg)	0.000258	1.29	0.004761	23.80	0.008529	42.65
Females (13+/nursing)	0.000865	4.33	0.004945	24.73	0.005649	28.25
Females (13-19 yrs/np/nn)	0.000215	1.08	0.003104	15.52	0.015428	77.14
Females (20+ years/np/nn)	0.000446	2.23	0.004131	20.65	0.009174	45.87
Females (13-50 years)	0.000240	1.20	0.0003603	18.01	0.009173	45.87
Males (13-19 years)	0.000344	1.72	0.002979	14.89	0.007330	36.65
Males (20+ years)	0.000386	1.93	0.003723	18.61	0.007178	35.89
Seniors (55+)	0.001441	7.20	0.004421	22.10	0.009141	45.70
Pacific Region	0.000714	3.57	0.003762	18.81	0.008563	42.82

LIST OF ATTACHMENTS:

Attachment 1: Table of raw data for all the commodities

Attachment 2: Residue file for all commodities <u>with</u> all the cooking factors being incorporated.

Attachment 3: The exposure for all commodities <u>with</u> all the cooking factors being incorporated.

Attachment 4: Residue file for all commodities <u>without</u> any cooking factors being incorporated.

Attachment 5: The exposure for all commodities <u>without</u> any cooking factors being incorporated.

Attachment 1: Table of raw data for all the commodities

Commodity	Data					RDF					%CT	comments
	Data Source	Yr(s)	# Sampels[1]	# Det.[2]	Range of Det. (ppm)	# Data[3]	# Det[2]	# 1/2 LOD[5]	# Zeroes	1/2 LOD (ppm)[4]		
Apples (NB)[6]	Pear, single-serving	98	160	0	NA	100	0	15	85	0.008	14.9%	NB[6]: Pear (single-serving) PDP data were used
Apples (PB)[7]	Apples (PDP)	94-96	1910	145	0.005-0.538	1910	145	140	1625	0.011	14.9%	PB[7]
Apples (B)[8]	Apples (PDP)	94-96	1910	145	0.005-0.538	NA	NA	NA	NA	NA	14.9%	B[8]: point estimate = 0.0052 ppm
Apples Juice	Apples Juice (PDP)	97	683	187	0.003-0.064	683	187	0	496	0.007	14.9%	PB: no 1/2 LOD value was used in RDF since %detects > %CT
Asparagus (NB, PB)	Asparagus (FDA)	92-97	166	0	NA	NA	NA	NA	NA	NA	100%	Tolerance was used as point estimate for NB and
Blueberries	Tolerance (1 ppm)	NA	NA	NA	NA	100	85	0	15	NA	85%	PB: tolerance used in RDF
Broccoli (NB)	Broccoli (PDP)	94	680	14	0.0065-0.036	680	13	245	422	0.010	37.9%	NB: PDP data were used directly (detects were near LOD)
Beans, Dry (B)	Green Beans (PDP)	94-95	1178	93	0.0065-1.76	NA	NA	NA	NA	NA	7%	B: point estimate = 0.015 ppm
Beans, Succulent (PB)	Green Beans (PDP)	94-95	1178	93	0.0065-1.76	1178	93	138	947	0.009	19.6%	PB
Brussels Sprouts	Lettuce (PDP)	94	691	101	0.0045-0.28	691	101	590	0	0.011	100%	PB
Cabbage (not-processed)	Tolerance (2 ppm)	NA	NA	NA	NA	100	25	0	75	NA	24.8%	NB: tolerance was used in RDF; different %CT for processed & not-processed
Cabbage (processed)	Tolerance (2 ppm)	NA	NA	NA	NA	100	61	0	39	NA	61%	PB: tolerance was used in RDF; different %CT for processed & not-processed
Cantaloupe	Tolerance (1 ppm)	NA	NA	NA	NA	100	13	0	77	NA	12.7%	NB : tolerance was used in RDF
Cauliflowers (NB)	cauliflower (FDA)	92-97	246	0	NA	100	0	38	62	0.010	38.4%	NB: no detects were found; 1/2 LOD = 0.01 was used in RDF
Celery (NB)	Celery (PDP)	94	311	0	NA	100	0	5	95	0.010	5%	NB: no detects were found; 1/2 LOD = 0.01 was used in RDF; 5% CT was from registrant
Celery Juice (PB)	Celery (PDP)	94	311	0	NA	100	0	5	95	0.010	5%	PB: no detects were found; 1/2 LOD = 0.01 was used in RDF
Cherries (B)	Cherries (FDA)	92-97	410	33	0.02-1.02	NA	NA	NA	NA	NA	7%	B: point estimate = 0.018 ppm

Commodity	Data					RDF					%CT	comments
	Data Source	Yr(s)	# Sampels[1]	# Det.[2]	Range of Det. (ppm)	# Data[3]	# Det[2]	# 1/2 LOD[5]	# Zeroes	1/2 LOD (ppm)[4]		
Cherries (PB)	Cherries (FDA)	92-97	410	33	0.02-1.02	410	33	4	374	0.010	8.7%	PB
Collards (PB)	Collards (FDA)	92-97	145	5	0.17-1.84	145	5	53	87	0.01	40%	PB
Cottonseed (oil and meal)	Tolerance (0.1 ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.9%	B: point estimate = tolerance X %CT = 0.01
Endive-escarole (PB)	Endive (FDA)	92-97	142	1	0.058	142	1	82	59	0.010	58.5%	PB
Eggs/Poultry (NB)	Tolerance (0.02 ppm)	NA	NA	NA	NA	100	8	NA	92	NA	7.6%	NB: tolerance was used in RDF
Field Corn (B)	Tolerance (0.1 ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	1%	B: point estimate = tolerance X %CT = 0.001
Grapes (PB)	Grapes (PDP)	96	525	106	0.0065-0.89	525	106	0	419	0.007	13%	PB: no 1/2 LOD was used in RDF since %detects > %CT
Grape-Juice/Concentrate (PB)	Orange Juice (PDP)	97	692	0	NA	100	0	8	92	0.008	8.5%	PB
Grapefruit (NB)	Grapefruit (FDA)	92-97	151	1	0.05	151	1	11	139	0.010	8.5%	Not-Blended : FDA data were used directly since detects were near LOD
Grapefruit Juice/Conc.(PB)	Grapefruit (FDA)	92-98	151	1	0.05	151	1	11	139	0.010	8.5%	PB: (PF: 0.23 & 0.92 for Juice & Conc)
Honeydew (NB)	Tolerance (1 ppm)	NA	NA	NA	NA	100	49	0	51	NA	48.8%	NB : tolerance was used in RDF
Kale (PB)	Kale (FDA)	92-97	112	1	0.15	112	1	111	0	0.01	100%	PB
lemons (NB)	Oranges (PDP)	94-97	1914	28	0.008-0.050	68357	1000	38921	28437	0.011	58.4%	NB: decomposited data
lemons (PB)	Oranges (PDP)	94-97	1914	28	0.008-0.050	1914	28	1090	796	0.011	58.4%	PB
lemon Juice	Orange Juice (PDP)	97	692	0	NA	100	0	58	42	0.008	58.4%	PB
Lentiles	Green Beans (PDP)	94-95	1178	93	0.0065-1.76	NA	NA	NA	NA	NA	57%	B: point estimate = 0.018 ppm
Lettuce, Head (NB)	Lettuce (PDP)	94	691	101	0.0045-0.28	6842	1000	3002	2839	0.011	58.5%	NB: decomposited data
Leaf Lettuce (PB)	Leaf Lettuce (FDA)	92-97	843	46	0.02-1.7	843	46	393	404	0.010	52.1%	PB
Lettuce-Others (NB)	Lettuce (PDP)	94	691	101	0.0045-0.28	6842	1000	1901	3941	0.011	42.4%	NB: decomposited data

Commodity	Data					RDF					%CT	comments
	Data Source	Yr(s)	# Sampels[1]	# Det.[2]	Range of Det. (ppm)	# Data[3]	# Det[2]	# 1/2 LOD[5]	# Zeroes	1/2 LOD (ppm)[4]		
Lettuce-Others (PB)	Lettuce (PDP)	94	691	101	0.0045-0.28	691	101	192	398	0.011	42.4%	PB
Meat (NB)	Tolerance (0.02 ppm)	NA	NA	NA	NA	100	41	0	59	NA	41.1%	NB : tolerance was used in RDF
Melons(NB)	Tolerance (1 ppm)	NA	NA	NA	NA	100	18	0	72	NA	18.3%	NB : tolerance was used in RDF
Milk(NB)	Milk (PDP)	96-97	1297	0	NA	100	0	41	59	0.001	41.1%	NB: no detects were found; 1/2 LOD = 0.001 was used in RDF
Mustard Greens	Spinach (PDP)	97	512	66	0.008-2.66	512	66	199	247	0.008	51.6%	PB
Oranges (NB)	Oranges (PDP)	94-96	1914	28	0.008-0.050	68357	1000	5631	61727	0.011	9.7%	NB: decomposited data
Oranges (PB)	Oranges (PDP)	94-96	1914	28	0.008-0.050	1914	28	158	1728	0.011	9.7%	PB
Orange Juice/Conc. (PB)	Orange Juice (PDP)	97	692	0	NA	100	0	10	90	0.008	9.7%	PB
Pears (NB & PB)	Pear, single-serving (PDP)	98	160	0	NA	100	0	6	94	0.008	5.6%	NB and PB: direct PDP data for single-serving pears were used
Pears (B)	Pear, single-serving (PDP)	98	160	0	NA	NA	NA	NA	NA	NA	5.6%	B: point estimate = 0.0005 ppm
Peas, Dry (B)	Green Beans (PDP)	94-95	1178	93	0.0065-1.76	NA	NA	NA	NA	NA	8.4%	B: point estimate = 0.015 ppm
Peas, Succulent	Green Beans (PDP)	94-95	1178	93	0.0065-1.76	1178	93	578	507	0.009	56.8%	PB
Pecan (PB)	Tolerance (0.1 ppm)	NA	NA	NA	NA	100	20	0	80	NA	19.4%	PB: tolerance used in RDF
Pepper, hot (NB)	Tomato (PDP)	96-97	881	27	0.008-0.04	32630	1000	2393	29236	0.007	10.4%	NB: decomposited data
Pepper, hot (PB)	Tomato (PDP)	96-97	881	27	0.008-0.04	881	27	65	789	0.007	10.4%	PB
Pepper, sweet (NB)	Sweet Pepper (FDA)	92-97	366	32	0.0132-2	11438	1000	4410	6028	0.010	47.3%	NB: decomposited data
Pepper, sweet (PB)	Sweet Pepper (FDA)	92-97	366	32	0.0132-2	366	32	141	193	0.010	47.3%	PB
Popcorn	Tolerance (0.1 ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	1%	B: point estimate = tolerance X %CT = 0.001 ppm
Pork (NB)	Tolerance (0.02 ppm)	NA	NA	NA	NA	100	41	0	59	NA	41.1%	NB : tolerance was used in RDF
Potato (NB)	Potato (FDA)	92-97	1228	0	NA	100	0	4	96	0.010	3.5%	NB: no detects were found; 1/2 LOD = 0.01 was used in RDF
Potato-dry (B)	Potato (FDA)	92-97	1228	0	NA	NA	NA	NA	NA	NA	3.5%	B: point estimate = 0.0004= (1/2 LOD X %CT)

Commodity	Data					RDF					%CT	comments
	Data Source	Yr(s)	# Sampels[1]	# Det.[2]	Range of Det. (ppm)	# Data[3]	# Det[2]	# 1/2 LOD[5]	# Zeroes	1/2 LOD (ppm)[4]		
Safflowre(B)	Tolerance (0.1 ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	41.1%	B: point estimate = tolerance X %CT = 0.041
Sorghum	Sorghum (FDA) & FTD[9]	92-97	3	0	NA	NA	NA	NA	NA	NA	1.3%	B: no detects were found; 1/2 LOD X %CT = 0.0001 (point estimate)
Soybeans	Soybeans (FDA)	92-97	72	0	NA	NA	NA	NA	NA	NA	1%	B: no detects were found; 1/2 LOD was used as a point estimate (0.01 ppm)
Spinach	Spinach (PDP)	97	512	66	0.008-2.66	512	66	22	424	0.008	17.2%	PB
Sweet Potato	Sweet Potato (FDA)	92-97	259	0	NA	100	0	4	96	0.010	3.5%	NB: no detects were found; 1/2 LOD = 0.01 was used in RDF
Swiss Chard	Spinach (PDP)	97	512	66	0.008-2.66	512	66	22	424	0.008	17.2%	PB
Tangerines	Oranges (PDP)	94-96	1914	28	0.008-0.050	68357	1000	13970	53387	0.011	21.9%	NB: decomposited data
Tangerines (PB)	Oranges (PDP)	94-96	1914	28	0.008-0.050	1914	28	391	1495	0.011	21.9%	PB
Tangerine Juice	Orange Juice (PDP)	97	692	0	NA	100	0	22	78	0.008	21.9%	PB
Tomato (NB)	Tomato (PDP)	96-97	881	27	0.008-0.04	32630	1000	4971	26658	0.007	18.3%	NB: decomposited data
Tomato (PB)	Tomato (PDP)	96-97	881	27	0.008-0.04	881	27	134	720	0.007	18.3%	PB
Tomato (B)	Tomato (PDP)	96-97	881	27	0.008-0.04	NA	NA	NA	NA	NA	60%	B: point estimate = 0.0025 ppm
Turnips-roots and tops (NB)	Tolerance (2 ppm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	100%	NB: Not sufficient data; Tolerance was used as point estimate
Watermelons	Tolerance (1 ppm)	NA	NA	NA	NA	100	8	0	92	NA	8.2%	NB : tolerance was used in RDF
Wheat	Wheat (FDA)	92-97	142	0	NA	NA	NA	NA	NA	NA	7.6%	B: no detects were found; 1/2 LOD was used as

1. # samples = total number of samples (data) in monitoring data
2. # Det. = number of detects
3. # Data = total number of data in RDF
4. ½ LOD (ppm) = weighted average LOD from monitoring data that was used in RDF
5. # ½ LOD = total number of ½ LOD values that were used in RDF
6. NB= Not-blended (commodity)
7. PB= Partially-blended (commodity)
8. B= Blended (commodity)
9. FTD = field trial data

Attachment 2: Residue file for all commodities <u>with</u> all the cooking factors being incorporated.

Filename: C:\deem\dimethoate\dimeth-all-2-CF.R96
Chemical name: dimethoate
RfD(Chronic): 0 mg/kg bw/day NOEL(Chronic): 0 mg/kg bw/day
RfD(Acute): .02 mg/kg bw/day NOEL(Acute): 2 mg/kg bw/day
Date created/last modified: 08-02-1999/08:55:42/8   Program ver. 6.77
NOTE: NOT ALL THE RDFs WERE USED.

RDF indices and file names for Monte Carlo Analysis
 1 LT-other.rdf
 2 LeafLT.rdf
 3 lettuce-head.rdf
 4 tomato-comingled.rdf
 5 WH.rdf
 6 spinach.rdf
 7 spinach-comingled.rdf
 8 COLLARDS.rdf
 9 Kale.rdf
10 BR.rdf
11 GRAPEFRUITS.rdf
12 OR.rdf
13 LEMON.rdf
14 tangerine.rdf
15 grapes-comingled.rdf
16 AP.rdf
17 AJ-2.rdf
18 TO.rdf
19 pepper-sweet-comingled.rdf
20 pepper-sweet.rdf
21 Pepper-hot.rdf
22 Beans-Green-comingled-94-5.rdf
23 endives.rdf
24 swiss chard.rdf
25 Pear-single-serving.rdf
26 pears-comingled.rdf
27 PT.rdf
28 cherries-comingled.rdf
29 MustardGreen-2.rdf
30 celery.rdf
31 Milk.rdf
32 Meat.rdf
33 Egg-Poultry.rdf
34 Cabbage-non-Processed.rdf

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35 CAUL.rdf
36 cottonseed.rdf
37 safflower.rdf
38 cantaloup.rdf
39 honeydew.rdf
40 watermelon.rdf
41 melons.rdf
42 pecans.rdf
43 sweet PT.rdf
44 Apple-comingled.rdf
45 Apple-blended.rdf
46 blueberries-comingled.rdf
47 Cabbage-Processed.rdf
48 Collards-comingled.rdf
49 Kale-comingled.rdf
50 lemon-comingled.rdf
51 Let-unsp-comingled.rdf
52 OR-comingled.rdf
53 pears-blended.rdf
54 SweetPeas-comingled-94-5.rdf
55 Pepper-hot-comingled.rdf
56 tangerines-comingled.rdf
57 brusselsSp-comingled.rdf
58 orangeJuice.rdf
59 lemonJuice.rdf
60 grapefruit-juice.rdf
61 tangerineJuice.rdf
62 apple-PXtranslate.rdf
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Food	Crop	Food Name	RESIDUE (ppm)	RDF #	Adj.Factors #1	#2	Comment
Code	Grp						
52	11	Apples					
		11-Uncooked	1.000000	62	1.000	1.000	
		12-Cooked: NFS	1.000000	62	0.700	1.000	
		13-Baked	1.000000	62	0.700	1.000	
		14-Boiled	1.000000	62	0.700	1.000	
		15-Fried	1.000000	62	0.700	1.000	
		18-Dried	1.000000	44	1.000	1.000	
		31-Canned: NFS	1.000000	44	1.000	1.000	
		32-Canned: Cooked	1.000000	44	0.700	1.000	
		33-Canned: Baked	1.000000	44	0.700	1.000	
		34-Canned: Boiled	1.000000	44	0.700	1.000	
		42-Frozen: Cooked	1.000000	44	0.700	1.000	
53	11	Apples-dried					

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          13-Baked              0.005200   0   5.600   1.000
          14-Boiled             0.005200   0   5.600   1.000
          18-Dried              0.005200   0   8.000   1.000
          42-Frozen: Cooked      0.005200   0   5.600   1.000
 54 11  Apples-juice/cider
          11-Uncooked            1.000000  17   1.000   1.000
          12-Cooked: NFS         1.000000  17   0.700   1.000
          14-Boiled             1.000000  17   0.700   1.000
          31-Canned: NFS         1.000000  17   1.000   1.000
          41-Frozen: NFS         1.000000  17   1.000   1.000
377 11  Apples-juice-concentrate
          12-Cooked: NFS         1.000000  17   2.100   1.000
          13-Baked              1.000000  17   2.100   1.000
          31-Canned: NFS         1.000000  17   3.000   1.000
          41-Frozen: NFS         1.000000  17   3.000   1.000
260 O   Asparagus
          11-Uncooked            0.010000   0   1.000   1.000
          14-Boiled             0.010000   0   0.700   1.000
          32-Canned: Cooked      0.010000   0   0.700   1.000
          42-Frozen: Cooked      0.010000   0   0.700   1.000
258 6C  Beans-dry-blackeye peas/cowpea   0.015000   0   1.000   1.000
249 6C  Beans-dry-broadbeans         0.015000   0   1.000   1.000
259 6C  Beans-dry-garbanzo/chick pea
          12-Cooked: NFS          0.015000   0   0.700   1.000
          14-Boiled             0.015000   0   0.700   1.000
          15-Fried              0.015000   0   0.700   1.000
          32-Canned: Cooked       0.015000   0   0.700   1.000
227 6C  Beans-dry-great northern       0.015000   0   1.000   1.000
256 6C  Beans-dry-hyacinth          0.015000   0   1.000   1.000
228 6C  Beans-dry-kidney
          12-Cooked: NFS          0.015000   0   0.700   1.000
          13-Baked              0.015000   0   0.700   1.000
          14-Boiled             0.015000   0   0.700   1.000
          32-Canned: Cooked       0.015000   0   0.700   1.000
          34-Canned: Boiled      0.015000   0   0.700   1.000
          42-Frozen: Cooked       0.015000   0   0.700   1.000
229 6C  Beans-dry-lima
          14-Boiled             0.015000   0   0.700   1.000
          32-Canned: Cooked       0.015000   0   0.700   1.000
230 6C  Beans-dry-navy (pea)
          32-Canned: Cooked       0.015000   0   0.700   1.000
          34-Canned: Boiled      0.015000   0   0.700   1.000
231 6C  Beans-dry-other
          12-Cooked: NFS          0.015000   0   0.700   1.000
          13-Baked              0.015000   0   0.700   1.000
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        14-Boiled                0.015000   0   0.700   1.000
        15-Fried                 0.015000   0   0.700   1.000
        34-Canned: Boiled        0.015000   0   0.700   1.000
251 6C  Beans-dry-pigeon beans        0.015000   0   1.000   1.000
232 6C  Beans-dry-pinto
        12-Cooked: NFS           0.015000   0   0.700   1.000
        13-Baked                 0.015000   0   0.700   1.000
        14-Boiled                0.015000   0   0.700   1.000
        15-Fried                 0.015000   0   0.700   1.000
        32-Canned: Cooked        0.015000   0   0.700   1.000
        42-Frozen: Cooked        0.015000   0   0.700   1.000
250 6B  Beans-succulent-broadbeans      1.000000  22   1.000   1.000
234 6A  Beans-succulent-green
        11-Uncooked              1.000000  22   1.000   1.000
        12-Cooked: NFS           1.000000  22   0.700   1.000
        14-Boiled                1.000000  22   0.700   1.000
        31-Canned: NFS           1.000000  22   1.000   1.000
        32-Canned: Cooked        1.000000  22   0.700   1.000
        34-Canned: Boiled        1.000000  22   0.700   1.000
        42-Frozen: Cooked        1.000000  22   0.700   1.000
        44-Frozen: Boiled        1.000000  22   0.700   1.000
        51-Cured: NFS (smoked/pickled/saltd)
                                 1.000000  22   1.000   1.000
257 6   Beans-succulent-hyacinth      1.000000  22   1.000   1.000
233 6B  Beans-succulent-lima
        11-Uncooked              1.000000  22   1.000   1.000
        12-Cooked: NFS           1.000000  22   0.700   1.000
        14-Boiled                1.000000  22   0.700   1.000
        32-Canned: Cooked        1.000000  22   0.700   1.000
        42-Frozen: Cooked        1.000000  22   0.700   1.000
        44-Frozen: Boiled        1.000000  22   0.700   1.000
235 6A  Beans-succulent-other
        34-Canned: Boiled        1.000000  22   0.700   1.000
236 6A  Beans-succulent-yellow/wax
        14-Boiled                1.000000  22   0.700   1.000
        32-Canned: Cooked        1.000000  22   0.700   1.000
        42-Frozen: Cooked        1.000000  22   0.700   1.000
253 6   Beans-unspecified             1.000000  22   1.000   1.000
323 M   Beef-dried               1.000000  32   1.920   1.000
324 M   Beef-fat w/o bones
        11-Uncooked              1.000000  32   1.000   1.000
        12-Cooked: NFS           1.000000  32   0.700   1.000
        13-Baked                 1.000000  32   0.700   1.000
        14-Boiled                1.000000  32   0.700   1.000
        15-Fried                 1.000000  32   0.700   1.000
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        31-Canned: NFS              1.000000  32  1.000  1.000
        32-Canned: Cooked           1.000000  32  0.700  1.000
        34-Canned: Boiled           1.000000  32  0.700  1.000
        42-Frozen: Cooked           1.000000  32  0.700  1.000
        45-Frozen: Fried            1.000000  32  0.700  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                            1.000000  32  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
        59-Cured: Dried (smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
325  M   Beef-kidney
        12-Cooked: NFS              1.000000  32  0.700  1.000
        15-Fried                    1.000000  32  0.700  1.000
327  M   Beef-lean (fat/free) w/o bones
        11-Uncooked                 1.000000  32  1.000  1.000
        12-Cooked: NFS              1.000000  32  0.700  1.000
        13-Baked                    1.000000  32  0.700  1.000
        14-Boiled                   1.000000  32  0.700  1.000
        15-Fried                    1.000000  32  0.700  1.000
        31-Canned: NFS              1.000000  32  1.000  1.000
        32-Canned: Cooked           1.000000  32  0.700  1.000
        33-Canned: Baked            1.000000  32  0.700  1.000
        34-Canned: Boiled           1.000000  32  0.700  1.000
        42-Frozen: Cooked           1.000000  32  0.700  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                            1.000000  32  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
        59-Cured: Dried (smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
326  M   Beef-liver
        12-Cooked: NFS              1.000000  32  0.700  1.000
        14-Boiled                   1.000000  32  0.700  1.000
        15-Fried                    1.000000  32  0.700  1.000
321  M   Beef-meat byproducts
        12-Cooked: NFS              1.000000  32  0.700  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
322  M   Beef-other organ meats
        12-Cooked: NFS              1.000000  32  0.700  1.000
        14-Boiled                   1.000000  32  0.700  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
  7  13B Blueberries
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        11-Uncooked              1.000000  46  1.000  1.000
        12-Cooked: NFS           1.000000  46  0.700  1.000
        13-Baked                 1.000000  46  0.700  1.000
        14-Boiled                1.000000  46  0.700  1.000
        15-Fried                 1.000000  46  0.700  1.000
        31-Canned: NFS           1.000000  46  1.000  1.000
        41-Frozen: NFS           1.000000  46  1.000  1.000
452 5B  Bok choy
        11-Uncooked              1.000000  34  1.000  1.000
        12-Cooked: NFS           1.000000  47  0.700  1.000
        14-Boiled                1.000000  47  0.700  1.000
        42-Frozen: Cooked        1.000000  47  0.700  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                                 1.000000  47  1.000  1.000
168 5A  Broccoli
        11-Uncooked              1.000000  10  1.000  1.000
        12-Cooked: NFS           1.000000  10  0.700  1.000
        13-Baked                 1.000000  10  0.700  1.000
        14-Boiled                1.000000  10  0.700  1.000
        15-Fried                 1.000000  10  0.700  1.000
        32-Canned: Cooked        1.000000  10  0.700  1.000
        42-Frozen: Cooked        1.000000  10  0.700  1.000
        44-Frozen: Boiled        1.000000  10  0.700  1.000
169 5A  Brussels sprouts
        14-Boiled                1.000000  57  0.700  1.000
        42-Frozen: Cooked        1.000000  57  0.700  1.000
170 5A  Cabbage-green and red
        11-Uncooked              1.000000  34  1.000  1.000
        12-Cooked: NFS           1.000000  47  0.700  1.000
        13-Baked                 1.000000  47  0.700  1.000
        14-Boiled                1.000000  47  0.700  1.000
        15-Fried                 1.000000  47  0.700  1.000
        31-Canned: NFS           1.000000  47  1.000  1.000
        32-Canned: Cooked        1.000000  47  0.700  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                                 1.000000  47  1.000  1.000
383 5B  Cabbage-savoy
        12-Cooked: NFS           1.000000  47  0.700  1.000
143 9A  Casabas
        11-Uncooked              1.000000  41  1.000  1.000
171 5A  Cauliflower
        11-Uncooked              1.000000  35  1.000  1.000
        12-Cooked: NFS           1.000000  35  0.700  1.000
        14-Boiled                1.000000  35  0.700  1.000
        15-Fried                 1.000000  35  0.700  1.000
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        42-Frozen: Cooked          1.000000  35  0.700  1.000
166 4B  Celery
        11-Uncooked                1.000000  30  1.000  1.000
        12-Cooked: NFS             1.000000  30  0.700  1.000
        13-Baked                   1.000000  30  0.700  1.000
        14-Boiled                  1.000000  30  0.700  1.000
        15-Fried                   1.000000  30  0.700  1.000
        31-Canned: NFS             1.000000  30  1.000  1.000
        32-Canned: Cooked          1.000000  30  0.700  1.000
        34-Canned: Boiled          1.000000  30  0.700  1.000
        42-Frozen: Cooked          1.000000  30  0.700  1.000
384 4B  Celery juice              1.000000  30  1.000  1.000
 61 12  Cherries
        11-Uncooked                1.000000  28  1.000  1.000
        12-Cooked: NFS             1.000000  28  0.700  1.000
        13-Baked                   1.000000  28  0.700  1.000
        14-Boiled                  1.000000  28  0.700  1.000
        31-Canned: NFS             1.000000  28  1.000  1.000
        33-Canned: Baked           1.000000  28  0.700  1.000
        41-Frozen: NFS             1.000000  28  1.000  1.000
 62 12  Cherries-dried            0.018000   0  4.000  1.000
 63 12  Cherries-juice
        13-Baked                   1.000000  28  1.000  1.000
        14-Boiled                  1.000000  28  1.000  1.000
        31-Canned: NFS             1.000000  28  1.500  1.000
        41-Frozen: NFS             1.000000  28  1.500  1.000
366 P   Chicken-byproducts
        12-Cooked: NFS             1.000000  33  0.700  1.000
        34-Canned: Boiled          1.000000  33  0.700  1.000
368 P   Chicken-fat w/o bones
        12-Cooked: NFS             1.000000  33  0.700  1.000
        13-Baked                   1.000000  33  0.700  1.000
        14-Boiled                  1.000000  33  0.700  1.000
        15-Fried                   1.000000  33  0.700  1.000
        31-Canned: NFS             1.000000  33  1.000  1.000
        32-Canned: Cooked          1.000000  33  0.700  1.000
        34-Canned: Boiled          1.000000  33  0.700  1.000
        42-Frozen: Cooked          1.000000  33  0.700  1.000
367 P   Chicken-giblets(liver)
        12-Cooked: NFS             1.000000  33  0.700  1.000
        13-Baked                   1.000000  33  0.700  1.000
        15-Fried                   1.000000  33  0.700  1.000
        42-Frozen: Cooked          1.000000  33  0.700  1.000
385 P   Chicken-giblets (excl. liver)
        12-Cooked: NFS             1.000000  33  0.700  1.000
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            14-Boiled              1.000000  33  0.700  1.000
            34-Canned: Boiled      1.000000  33  0.700  1.000
            42-Frozen: Cooked      1.000000  33  0.700  1.000
369  P   Chicken-lean/fat free w/o bones
            12-Cooked: NFS         1.000000  33  0.700  1.000
            13-Baked               1.000000  33  0.700  1.000
            14-Boiled              1.000000  33  0.700  1.000
            15-Fried               1.000000  33  0.700  1.000
            31-Canned: NFS         1.000000  33  1.000  1.000
            32-Canned: Cooked      1.000000  33  0.700  1.000
            34-Canned: Boiled      1.000000  33  0.700  1.000
            42-Frozen: Cooked      1.000000  33  0.700  1.000
172  5B  Collards
            14-Boiled              1.000000   8  0.700  1.000
            32-Canned: Cooked      1.000000   8  0.700  1.000
            42-Frozen: Cooked      1.000000   8  0.700  1.000
267  15  Corn grain-bran
            12-Cooked: NFS         0.001000   0  0.800  1.000
            13-Baked               0.001000   0  0.800  1.000
            14-Boiled              0.001000   0  0.800  1.000
            15-Fried               0.001000   0  0.800  1.000
            31-Canned: NFS         0.001000   0  1.000  1.000
266  15  Corn grain-endosperm
            11-Uncooked            0.001000   0  0.400  1.000
            12-Cooked: NFS         0.001000   0  0.300  1.000
            13-Baked               0.001000   0  0.300  1.000
            14-Boiled              0.001000   0  0.300  1.000
            15-Fried               0.001000   0  0.300  1.000
            31-Canned: NFS         0.001000   0  0.400  1.000
            32-Canned: Cooked      0.001000   0  0.300  1.000
            33-Canned: Baked       0.001000   0  0.300  1.000
            34-Canned: Boiled      0.001000   0  0.300  1.000
            41-Frozen: NFS         0.001000   0  0.400  1.000
            42-Frozen: Cooked      0.001000   0  0.300  1.000
            43-Frozen: Baked       0.001000   0  0.300  1.000
            45-Frozen: Fried       0.001000   0  0.300  1.000
            99-Alcohol/Fermented/Distilled 0.001000   0  0.400  1.000
289  15  Corn grain-oil
            98-Refined             0.001000   0  0.300  1.000
268  15  Corn grain/sugar/hfcs
            98-Refined             0.001000   0  1.500  1.000
388  15  Corn grain/sugar-molasses
            12-Cooked: NFS         0.001000   0  1.200  1.000
            41-Frozen: NFS         0.001000   0  1.500  1.000
237  15  Corn/pop
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        12-Cooked: NFS          0.001000   0  0.800  1.000
        13-Baked                0.001000   0  0.800  1.000
291  O  Cottonseed-meal
        13-Baked                0.010000   0  0.700  1.000
290  O  Cottonseed-oil
        98-Refined              0.010000   0  0.600  1.000
144  9A  Crenshaws              1.000000  39  1.000  1.000
364  P  Eggs-white only
        11-Uncooked             1.000000  33  1.000  1.000
        12-Cooked: NFS          1.000000  33  0.700  1.000
        13-Baked                1.000000  33  0.700  1.000
        14-Boiled               1.000000  33  0.700  1.000
        31-Canned: NFS          1.000000  33  1.000  1.000
        32-Canned: Cooked       1.000000  33  0.700  1.000
        34-Canned: Boiled       1.000000  33  0.700  1.000
        41-Frozen: NFS          1.000000  33  1.000  1.000
        42-Frozen: Cooked       1.000000  33  0.700  1.000
363  P  Eggs-whole
        11-Uncooked             1.000000  33  1.000  1.000
        12-Cooked: NFS          1.000000  33  0.700  1.000
        13-Baked                1.000000  33  0.700  1.000
        14-Boiled               1.000000  33  0.700  1.000
        15-Fried                1.000000  33  0.700  1.000
        31-Canned: NFS          1.000000  33  1.000  1.000
        34-Canned: Boiled       1.000000  33  0.700  1.000
        41-Frozen: NFS          1.000000  33  1.000  1.000
        42-Frozen: Cooked       1.000000  33  0.700  1.000
        45-Frozen: Fried        1.000000  33  0.700  1.000
365  P  Eggs-yolk only
        11-Uncooked             1.000000  33  1.000  1.000
        12-Cooked: NFS          1.000000  33  0.700  1.000
        13-Baked                1.000000  33  0.700  1.000
        14-Boiled               1.000000  33  0.700  1.000
        15-Fried                1.000000  33  0.700  1.000
        31-Canned: NFS          1.000000  33  1.000  1.000
        32-Canned: Cooked       1.000000  33  0.700  1.000
        34-Canned: Boiled       1.000000  33  0.700  1.000
        41-Frozen: NFS          1.000000  33  1.000  1.000
178  4A  Endive-curley and escarole
        11-Uncooked             1.000000  23  1.000  1.000
        12-Cooked: NFS          1.000000  23  0.700  1.000
330  M  Goat-fat w/o bone
        13-Baked                1.000000  32  0.700  1.000
        14-Boiled               1.000000  32  0.700  1.000
331  M  Goat-kidney             1.000000  32  1.000  1.000
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333  M   Goat-lean (fat/free) w/o bone
         13-Baked              1.000000  32   0.700   1.000
         14-Boiled             1.000000  32   0.700   1.000
332  M   Goat-liver            1.000000  32   1.000   1.000
328  M   Goat-meat byproducts       1.000000  32   1.000   1.000
329  M   Goat-other organ meats     1.000000  32   1.000   1.000
 23  10  Grapefruit-juice
         11-Uncooked           1.000000  60   1.200   1.000
         31-Canned: NFS         1.000000  60   1.200   1.000
441  10  Grapefruit-juice-concentrate
         41-Frozen: NFS         1.000000  60   4.600   1.000
448  10  Grapefruit peel        1.000000  11   1.000   1.000
 22  10  Grapefruit-peeled fruit
         11-Uncooked           1.000000  11   1.000   1.000
         12-Cooked: NFS         1.000000  11   0.700   1.000
         31-Canned: NFS         1.000000  11   1.000   1.000
 13  O   Grapes
         11-Uncooked           1.000000  15   1.000   1.000
         12-Cooked: NFS         1.000000  15   0.700   1.000
         31-Canned: NFS         1.000000  15   1.000   1.000
         41-Frozen: NFS         1.000000  15   1.000   1.000
 15  O   Grapes-juice
         11-Uncooked           1.000000  15   1.200   1.000
         12-Cooked: NFS         1.000000  15   0.840   1.000
         14-Boiled             1.000000  15   0.840   1.000
         31-Canned: NFS         1.000000  15   1.200   1.000
         34-Canned: Boiled      1.000000  15   0.840   1.000
         41-Frozen: NFS         1.000000  15   1.200   1.000
392  O   Grapes-juice-concentrate
         12-Cooked: NFS         1.000000  15   2.500   1.000
         13-Baked              1.000000  15   2.500   1.000
         14-Boiled             1.000000  15   2.500   1.000
         31-Canned: NFS         1.000000  15   3.600   1.000
         41-Frozen: NFS         1.000000  15   3.600   1.000
195  O   Grapes-leaves
         14-Boiled             1.000000  15   0.700   1.000
 14  O   Grapes-raisins
         11-Uncooked           1.000000  15   1.000   1.000
         12-Cooked: NFS         1.000000  15   0.700   1.000
         13-Baked              1.000000  15   0.700   1.000
         14-Boiled             1.000000  15   0.700   1.000
         18-Dried              1.000000  15   1.000   1.000
         42-Frozen: Cooked      1.000000  15   0.700   1.000
315  O   Grapes-wine and sherry      1.000000  15   1.000   1.000
334  M   Horsemeat             1.000000  32   1.000   1.000
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174 5B Kale
        12-Cooked: NFS   1.000000   9 0.700 1.000
        14-Boiled   1.000000   9 0.700 1.000
        32-Canned: Cooked   1.000000   9 0.700 1.000
 28 10 Lemons-juice
        11-Uncooked   1.000000 59 1.100 1.000
        12-Cooked: NFS   1.000000 59 0.770 1.000
        13-Baked   1.000000 59 0.770 1.000
        14-Boiled   1.000000 59 0.770 1.000
        15-Fried   1.000000 59 0.770 1.000
        31-Canned: NFS   1.000000 59 1.100 1.000
        32-Canned: Cooked   1.000000 59 0.770 1.000
        34-Canned: Boiled   1.000000 59 0.770 1.000
        41-Frozen: NFS   1.000000 59 1.100 1.000
        42-Frozen: Cooked   1.000000 59 0.770 1.000
442 10 Lemons-juice-concentrate
        12-Cooked: NFS   1.000000 59 4.400 1.000
        13-Baked   1.000000 59 4.400 1.000
        14-Boiled   1.000000 59 4.400 1.000
        31-Canned: NFS   1.000000 59 6.300 1.000
        34-Canned: Boiled   1.000000 59 4.400 1.000
        41-Frozen: NFS   1.000000 59 6.300 1.000
 27 10 Lemons-peel
        11-Uncooked   1.000000 50 46.000 1.000
        13-Baked   1.000000 50 32.000 1.000
        14-Boiled   1.000000 50 32.000 1.000
        31-Canned: NFS   1.000000 50 46.000 1.000
        34-Canned: Boiled   1.000000 50 32.000 1.000
        41-Frozen: NFS   1.000000 50 46.000 1.000
 26 10 Lemons-peeled fruit
        11-Uncooked   1.000000 13 1.000 1.000
        12-Cooked: NFS   1.000000 13 32.000 1.000
        31-Canned: NFS   1.000000 50 1.000 1.000
243 6C Lentils
        14-Boiled   0.018000   0 0.700 1.000
182 4A Lettuce-unspecified
        31-Canned: NFS   1.000000   1 1.000 1.000
176 4A Lettuce-leafy varieties
        11-Uncooked   1.000000   2 1.000 1.000
192 4A Lettuce-head varieties
        11-Uncooked   1.000000   3 1.000 1.000
141 9A Melons-cantaloupes-juice   1.000000 38 1.000 1.000
142 9A Melons-cantaloupes-pulp
        11-Uncooked   1.000000 38 1.000 1.000
145 9A Melons-honeydew

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        11-Uncooked                    1.000000  39  1.000  1.000
146 9A  Melons-persian                 1.000000  41  1.000  1.000
398 D   Milk-based water
        12-Cooked: NFS                 1.000000  31  0.700  1.000
        13-Baked               1.000000  31  0.700  1.000
        14-Boiled              1.000000  31  0.700  1.000
        15-Fried               1.000000  31  0.700  1.000
        16-Pasteurized                 1.000000  31  0.700  1.000
        18-Dried               1.000000  31  1.000  1.000
        31-Canned: NFS                 1.000000  31  1.000  1.000
        32-Canned: Cooked              1.000000  31  0.700  1.000
        33-Canned: Baked               1.000000  31  0.700  1.000
        34-Canned: Boiled              1.000000  31  0.700  1.000
        41-Frozen: NFS                 1.000000  31  1.000  1.000
        42-Frozen: Cooked              1.000000  31  0.700  1.000
        43-Frozen: Baked               1.000000  31  0.700  1.000
        45-Frozen: Fried               1.000000  31  0.700  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                               1.000000  31  1.000  1.000
319 D   Milk-fat solids
        12-Cooked: NFS                 1.000000  31  0.700  1.000
        13-Baked               1.000000  31  0.700  1.000
        14-Boiled              1.000000  31  0.700  1.000
        15-Fried               1.000000  31  0.700  1.000
        16-Pasteurized                 1.000000  31  1.000  1.000
        18-Dried               1.000000  31  1.000  1.000
        31-Canned: NFS                 1.000000  31  1.000  1.000
        32-Canned: Cooked              1.000000  31  0.700  1.000
        34-Canned: Boiled              1.000000  31  0.700  1.000
        41-Frozen: NFS                 1.000000  31  1.000  1.000
        42-Frozen: Cooked              1.000000  31  0.700  1.000
        45-Frozen: Fried               1.000000  31  0.700  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                               1.000000  31  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                               1.000000  31  1.000  1.000
318 D   Milk-nonfat solids
        12-Cooked: NFS                 1.000000  31  0.700  1.000
        13-Baked               1.000000  31  0.700  1.000
        14-Boiled              1.000000  31  0.700  1.000
        15-Fried               1.000000  31  0.700  1.000
        16-Pasteurized                 1.000000  31  0.700  1.000
        18-Dried               1.000000  31  1.000  1.000
        31-Canned: NFS                 1.000000  31  1.000  1.000
        32-Canned: Cooked              1.000000  31  0.700  1.000
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         34-Canned: Boiled         1.000000  31   0.700   1.000
         41-Frozen: NFS            1.000000  31   1.000   1.000
         42-Frozen: Cooked         1.000000  31   0.700   1.000
         43-Frozen: Baked          1.000000  31   0.700   1.000
         45-Frozen: Fried          1.000000  31   0.700   1.000
         51-Cured: NFS (smoked/pickled/saltd)
                           1.000000  31   1.000   1.000
         52-Cured: Cooked(smokd/pickld/saltd)
                           1.000000  31   1.000   1.000
         98-Refined                1.000000  31   1.000   1.000
 320  D   Milk sugar (lactose)
         12-Cooked: NFS            1.000000  31   0.700   1.000
         13-Baked                  1.000000  31   0.700   1.000
         14-Boiled                 1.000000  31   0.700   1.000
         15-Fried                  1.000000  31   0.700   1.000
         16-Pasteurized            1.000000  31   0.700   1.000
         18-Dried                  1.000000  31   1.000   1.000
         31-Canned: NFS            1.000000  31   1.000   1.000
         32-Canned: Cooked         1.000000  31   0.700   1.000
         34-Canned: Boiled         1.000000  31   0.700   1.000
         41-Frozen: NFS            1.000000  31   1.000   1.000
         42-Frozen: Cooked         1.000000  31   0.700   1.000
         45-Frozen: Fried          1.000000  31   0.700   1.000
         51-Cured: NFS (smoked/pickled/saltd)
                           1.000000  31   1.000   1.000
         52-Cured: Cooked(smokd/pickld/saltd)
                           1.000000  31   1.000   1.000
 183  5B  Mustard greens
         14-Boiled                 1.000000  29   0.700   1.000
  36  10  Oranges-juice
         11-Uncooked               1.000000  58   1.000   1.000
         12-Cooked: NFS            1.000000  58   0.700   1.000
         31-Canned: NFS            1.000000  58   1.000   1.000
         41-Frozen: NFS            1.000000  58   1.000   1.000
  33  10  Oranges-juice-concentrate
         11-Uncooked               1.000000  58   3.700   1.000
         12-Cooked: NFS            1.000000  58   2.600   1.000
         13-Baked                  1.000000  58   2.600   1.000
         14-Boiled                 1.000000  58   2.600   1.000
         31-Canned: NFS            1.000000  58   3.700   1.000
         41-Frozen: NFS            1.000000  58   3.700   1.000
         42-Frozen: Cooked         1.000000  58   2.600   1.000
  35  10  Oranges-peel
         11-Uncooked               1.000000  12  46.000   1.000
         12-Cooked: NFS            1.000000  12  32.000   1.000
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        31-Canned: NFS              1.000000  52  46.000  1.000
        41-Frozen: NFS              1.000000  52  46.000  1.000
 34  10  Oranges-peeled fruit
        11-Uncooked                 1.000000  12   1.000  1.000
        12-Cooked: NFS              1.000000  12   0.700  1.000
        31-Canned: NFS              1.000000  52   1.000  1.000
 56  11  Pears
        11-Uncooked                 1.000000  25   1.000  1.000
        12-Cooked: NFS              1.000000  25   0.700  1.000
        13-Baked              1.000000  25   0.700  1.000
        14-Boiled             1.000000  25   0.700  1.000
        31-Canned: NFS              1.000000  25   1.000  1.000
 57  11  Pears-dried
        13-Baked              0.000500   0   4.400  1.000
        14-Boiled             0.000500   0   4.400  1.000
        18-Dried              0.000500   0   6.250  1.000
404  11  Pears-juice
        11-Uncooked                 1.000000  25   1.000  1.000
        12-Cooked: NFS              1.000000  25   0.700  1.000
        13-Baked              1.000000  25   0.700  1.000
        31-Canned: NFS              1.000000  25   1.000  1.000
        33-Canned: Baked            1.000000  25   0.700  1.000
        41-Frozen: NFS              1.000000  25   1.000  1.000
        42-Frozen: Cooked           1.000000  25   0.700  1.000
240  6C  Peas (garden)-dry
        12-Cooked: NFS              0.015000   0   0.700  1.000
        14-Boiled             0.015000   0   0.700  1.000
        31-Canned: NFS              0.015000   0   1.000  1.000
        32-Canned: Cooked            0.015000   0   0.700  1.000
        34-Canned: Boiled           0.015000   0   0.700  1.000
241  6AB Peas (garden)-green
        11-Uncooked                 1.000000  54   1.000  1.000
        12-Cooked: NFS              1.000000  54   0.700  1.000
        13-Baked              1.000000  54   0.700  1.000
        14-Boiled             1.000000  54   0.700  1.000
        15-Fried              1.000000  54   0.700  1.000
        31-Canned: NFS              1.000000  54   1.000  1.000
        32-Canned: Cooked            1.000000  54   0.700  1.000
        34-Canned: Boiled           1.000000  54   0.700  1.000
        42-Frozen: Cooked           1.000000  54   0.700  1.000
        44-Frozen: Boiled           1.000000  54   0.700  1.000
        45-Frozen: Fried           1.000000  54   0.700  1.000
405  6B  Peas-succulent/blackeye/cowpea
        12-Cooked: NFS              1.000000  54   0.700  1.000
        14-Boiled             1.000000  54   0.700  1.000
```

```
        32-Canned: Cooked        1.000000  54  0.700  1.000
        42-Frozen: Cooked        1.000000  54  0.700  1.000
 47 14  Pecans
        11-Uncooked              1.000000  42  1.000  1.000
        13-Baked                 1.000000  42  0.700  1.000
        14-Boiled                1.000000  42  0.700  1.000
156  8  Peppers-chilli incl jalapeno
        11-Uncooked              1.000000  21  1.000  1.000
        12-Cooked: NFS           1.000000  21  0.700  1.000
        13-Baked                 1.000000  21  0.700  1.000
        14-Boiled                1.000000  21  0.700  1.000
        15-Fried                 1.000000  21  0.700  1.000
        31-Canned: NFS           1.000000  55  1.000  1.000
        32-Canned: Cooked        1.000000  55  0.700  1.000
        33-Canned: Baked         1.000000  55  0.700  1.000
        34-Canned: Boiled        1.000000  55  0.700  1.000
        42-Frozen: Cooked        1.000000  55  0.700  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                                 1.000000  55  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                                 1.000000  55  1.000  1.000
        60-Canned: Cured         1.000000  55  1.000  1.000
157  8  Peppers-other
        11-Uncooked              1.000000  20  1.000  1.000
155  8  Peppers-sweet(garden)
        11-Uncooked              1.000000  20  1.000  1.000
        12-Cooked: NFS           1.000000  20  0.700  1.000
        13-Baked                 1.000000  20  0.700  1.000
        14-Boiled                1.000000  20  0.700  1.000
        31-Canned: NFS           1.000000  19  1.000  1.000
        32-Canned: Cooked        1.000000  19  0.700  1.000
        34-Canned: Boiled        1.000000  19  0.700  1.000
        42-Frozen: Cooked        1.000000  19  0.700  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                                 1.000000  19  1.000  1.000
158  8  Pimientos
        12-Cooked: NFS           1.000000  20  0.700  1.000
        14-Boiled                1.000000  20  0.700  1.000
        31-Canned: NFS           1.000000  19  1.000  1.000
        60-Canned: Cured         1.000000  19  1.000  1.000
344  M  Pork-fat w/o bone
        11-Uncooked              1.000000  32  1.000  1.000
        12-Cooked: NFS           1.000000  32  0.700  1.000
        13-Baked                 1.000000  32  0.700  1.000
        14-Boiled                1.000000  32  0.700  1.000
```

```
      15-Fried              1.000000  32  0.700  1.000
      31-Canned: NFS        1.000000  32  1.000  1.000
      32-Canned: Cooked     1.000000  32  0.700  1.000
      34-Canned: Boiled     1.000000  32  0.700  1.000
      42-Frozen: Cooked     1.000000  32  0.700  1.000
      51-Cured: NFS (smoked/pickled/saltd)
                            1.000000  32  1.000  1.000
      52-Cured: Cooked(smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
      60-Canned: Cured      1.000000  32  1.000  1.000
345  M   Pork-kidney        1.000000  32  1.000  1.000
347  M   Pork-lean (fat free) w/o bone
      12-Cooked: NFS        1.000000  32  0.700  1.000
      13-Baked              1.000000  32  0.700  1.000
      14-Boiled             1.000000  32  0.700  1.000
      15-Fried              1.000000  32  0.700  1.000
      31-Canned: NFS        1.000000  32  1.000  1.000
      32-Canned: Cooked     1.000000  32  0.700  1.000
      34-Canned: Boiled     1.000000  32  0.700  1.000
      42-Frozen: Cooked     1.000000  32  0.700  1.000
      51-Cured: NFS (smoked/pickled/saltd)
                            1.000000  32  1.000  1.000
      52-Cured: Cooked(smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
      60-Canned: Cured      1.000000  32  1.000  1.000
346  M   Pork-liver
      12-Cooked: NFS        1.000000  32  0.700  1.000
      15-Fried              1.000000  32  0.700  1.000
342  M   Pork-meat byproducts
      12-Cooked: NFS        1.000000  32  0.700  1.000
      14-Boiled             1.000000  32  0.700  1.000
      15-Fried              1.000000  32  0.700  1.000
      52-Cured: Cooked(smokd/pickld/saltd)
                            1.000000  32  1.000  1.000
343  M   Pork-other organ meats
      12-Cooked: NFS        1.000000  32  0.700  1.000
      15-Fried              1.000000  32  0.700  1.000
210  1C  Potatoes/white-dry
      12-Cooked: NFS        0.000400   0  0.180  1.000
      14-Boiled             0.000400   0  0.180  1.000
      15-Fried              0.000400   0  0.180  1.000
      31-Canned: NFS        0.000400   0  0.180  1.000
      34-Canned: Boiled     0.000400   0  0.180  1.000
      42-Frozen: Cooked     0.000400   0  0.180  1.000
209  1C  Potatoes/white-peeled
```

```
        12-Cooked: NFS            1.000000  27  0.180  1.000
        13-Baked              1.000000  27  0.180  1.000
        14-Boiled             1.000000  27  0.180  1.000
        15-Fried              1.000000  27  0.180  1.000
        32-Canned: Cooked         1.000000  27  0.180  1.000
        34-Canned: Boiled        1.000000  27  0.180  1.000
        42-Frozen: Cooked        1.000000  27  0.180  1.000
        43-Frozen: Baked         1.000000  27  0.180  1.000
        45-Frozen: Fried        1.000000  27  0.180  1.000
211 1C  Potatoes/white-peel only
        13-Baked              1.000000  27  0.600  1.000
        15-Fried              1.000000  27  0.600  1.000
208 1C  Potatoes/white-unspecified
        31-Canned: NFS          1.000000  27  1.000  1.000
207 1C  Potatoes/white-whole
        11-Uncooked             1.000000  27  1.000  1.000
        12-Cooked: NFS          1.000000  27  0.700  1.000
        13-Baked              1.000000  27  0.700  1.000
        14-Boiled             1.000000  27  0.700  1.000
        15-Fried              1.000000  27  0.700  1.000
        31-Canned: NFS          1.000000  27  1.000  1.000
362 P   Poultry-other-fat w/o bones
        12-Cooked: NFS          1.000000  33  0.700  1.000
        13-Baked              1.000000  33  0.700  1.000
        14-Boiled             1.000000  33  0.700  1.000
361 P   Poultry-other-giblets(liver)    1.000000  33  1.000  1.000
360 P   Poultry-other-lean (fat free) w/
        12-Cooked: NFS          1.000000  33  0.700  1.000
        13-Baked              1.000000  33  0.700  1.000
295 O   Safflower-oil
        98-Refined            0.041000   0  1.000  1.000
294 O   Safflower-seed            0.041000   0  1.000  1.000
338 M   Sheep-fat w/o bone
        12-Cooked: NFS          1.000000  32  0.700  1.000
        13-Baked              1.000000  32  0.700  1.000
        14-Boiled             1.000000  32  0.700  1.000
        31-Canned: NFS          1.000000  32  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                        1.000000  32  1.000  1.000
339 M   Sheep-kidney             1.000000  32  1.000  1.000
341 M   Sheep-lean (fat free) w/o bone
        12-Cooked: NFS          1.000000  32  0.700  1.000
        13-Baked              1.000000  32  0.700  1.000
        14-Boiled             1.000000  32  0.700  1.000
        15-Fried              1.000000  32  0.700  1.000
```

```
340  M   Sheep-liver                    1.000000  32  1.000  1.000
336  M   Sheep-meat byproducts           1.000000  32  1.000  1.000
337  M   Sheep-other organ meats         1.000000  32  1.000  1.000
275  15  Sorghum (including milo)
         14-Boiled              0.000100   0  0.800  1.000
303  6A  Soybean-other            0.000100   0  0.700  1.000
307  6A  Soybeans-flour (defatted)
         12-Cooked: NFS           0.000100   0  0.700  1.000
         13-Baked               0.000100   0  0.700  1.000
         14-Boiled              0.000100   0  0.700  1.000
         15-Fried               0.000100   0  0.700  1.000
         31-Canned: NFS           0.000100   0  1.000  1.000
         34-Canned: Boiled         0.000100   0  0.700  1.000
         42-Frozen: Cooked          0.000100   0  0.700  1.000
         98-Refined             0.000100   0  1.000  1.000
306  6A  Soybeans-flour (low fat)
         12-Cooked: NFS           0.000100   0  0.700  1.000
         13-Baked               0.000100   0  0.700  1.000
         15-Fried               0.000100   0  0.700  1.000
         31-Canned: NFS           0.000100   0  1.000  1.000
305  6A  Soybeans-flour (full fat)
         12-Cooked: NFS           0.000100   0  0.700  1.000
         13-Baked               0.000100   0  0.700  1.000
         14-Boiled              0.000100   0  0.700  1.000
         34-Canned: Boiled         0.000100   0  0.700  1.000
         42-Frozen: Cooked          0.000100   0  0.700  1.000
304  6A  Soybeans-mature seeds dry
         12-Cooked: NFS           0.000100   0  0.700  1.000
         13-Baked               0.000100   0  0.700  1.000
         14-Boiled              0.000100   0  0.700  1.000
         15-Fried               0.000100   0  0.700  1.000
         41-Frozen: NFS           0.000100   0  1.000  1.000
297  6A  Soybeans-oil
         98-Refined             0.000100   0  1.000  1.000
482  O   Soybeans-protein isolate
         12-Cooked: NFS           0.000100   0  0.700  1.000
         13-Baked               0.000100   0  0.700  1.000
         14-Boiled              0.000100   0  0.700  1.000
         15-Fried               0.000100   0  0.700  1.000
         31-Canned: NFS           0.000100   0  1.000  1.000
         32-Canned: Cooked          0.000100   0  0.700  1.000
         33-Canned: Baked          0.000100   0  0.700  1.000
         34-Canned: Boiled         0.000100   0  0.700  1.000
         41-Frozen: NFS           0.000100   0  1.000  1.000
         42-Frozen: Cooked          0.000100   0  0.700  1.000
```

```
      51-Cured: NFS (smoked/pickled/saltd)
                        0.000100   0   1.000   1.000
255  6A  Soybeans-sprouted seeds
      14-Boiled                0.000100   0   0.230   1.000
186  4A  Spinach
      11-Uncooked              1.000000   7   1.000   1.000
      12-Cooked: NFS           1.000000   7   0.700   1.000
      14-Boiled                1.000000   7   0.700   1.000
      31-Canned: NFS           1.000000   7   1.000   1.000
      32-Canned: Cooked        1.000000   7   0.700   1.000
      34-Canned: Boiled        1.000000   7   0.700   1.000
      42-Frozen: Cooked        1.000000   7   0.700   1.000
      44-Frozen: Boiled        1.000000   7   0.700   1.000
218  1CD  Sweet potatoes (incl yams)
      12-Cooked: NFS           1.000000   43   0.700   1.000
      13-Baked                 1.000000   43   0.700   1.000
      14-Boiled                1.000000   43   0.700   1.000
      15-Fried                 1.000000   43   0.700   1.000
      32-Canned: Cooked        1.000000   43   0.700   1.000
      34-Canned: Boiled        1.000000   43   0.700   1.000
418  2   Sweet potatos-leaves     1.000000   43   1.000   1.000
187  4B  Swiss chard
      11-Uncooked              1.000000   7   1.000   1.000
      14-Boiled                1.000000   7   0.700   1.000
 37  10  Tangelos                 1.000000   14   1.000   1.000
 38  10  Tangerines
      11-Uncooked              1.000000   14   1.000   1.000
      31-Canned: NFS           1.000000   14   1.000   1.000
      41-Frozen: NFS           1.000000   14   1.000   1.000
 39  10  Tangerines-juice
      11-Uncooked              1.000000   61   1.300   1.000
      31-Canned: NFS           1.000000   61   1.300   1.000
      41-Frozen: NFS           1.000000   61   1.300   1.000
420  10  Tangerines-juice-concentrate     1.000000   61   4.100   1.000
163  8   Tomatoes-catsup
      34-Canned: Boiled        0.002500   0   1.100   1.000
423  8   Tomatoes-dried
      12-Cooked: NFS           0.002500   0   10.000   1.000
      15-Fried                 0.002500   0   10.000   1.000
160  8   Tomatoes-juice
      31-Canned: NFS           0.002500   0   0.100   1.000
      32-Canned: Cooked        0.002500   0   0.070   1.000
      34-Canned: Boiled        0.002500   0   0.070   1.000
      42-Frozen: Cooked        0.002500   0   0.070   1.000
162  8   Tomatoes-paste
```

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          14-Boiled                    0.002500   0   1.800   1.000
          31-Canned: NFS               0.002500   0   2.600   1.000
          32-Canned: Cooked            0.002500   0   1.800   1.000
          33-Canned: Baked             0.002500   0   1.800   1.000
          34-Canned: Boiled            0.002500   0   1.800   1.000
          42-Frozen: Cooked            0.002500   0   1.800   1.000
161  8  Tomatoes-puree
          12-Cooked: NFS               0.002500   0   1.000   1.000
          14-Boiled                    0.002500   0   1.000   1.000
          31-Canned: NFS               0.002500   0   1.500   1.000
          32-Canned: Cooked            0.002500   0   1.000   1.000
          33-Canned: Baked             0.002500   0   1.000   1.000
          34-Canned: Boiled            0.002500   0   1.000   1.000
          42-Frozen: Cooked            0.002500   0   1.000   1.000
159  8  Tomatoes-whole
          11-Uncooked                  1.000000  18   1.000   1.000
          12-Cooked: NFS               1.000000  18   0.700   1.000
          13-Baked                     1.000000  18   0.700   1.000
          14-Boiled                    1.000000  18   0.700   1.000
          15-Fried                     1.000000  18   0.700   1.000
          31-Canned: NFS               1.000000   4   1.000   1.000
          32-Canned: Cooked            1.000000   4   0.700   1.000
          33-Canned: Baked             1.000000   4   0.700   1.000
          34-Canned: Boiled            1.000000   4   0.700   1.000
          42-Frozen: Cooked            1.000000   4   0.700   1.000
355  P  Turkey-byproducts
          12-Cooked: NFS               1.000000  33   0.700   1.000
          34-Canned: Boiled            1.000000  33   0.700   1.000
          42-Frozen: Cooked            1.000000  33   0.700   1.000
          52-Cured: Cooked(smokd/pickld/saltd)
                                       1.000000  33   1.000   1.000
357  P  Turkey--fat w/o bones
          12-Cooked: NFS               1.000000  33   0.700   1.000
          13-Baked                     1.000000  33   0.700   1.000
          14-Boiled                    1.000000  33   0.700   1.000
          15-Fried                     1.000000  33   0.700   1.000
          31-Canned: NFS               1.000000  33   1.000   1.000
          32-Canned: Cooked            1.000000  33   0.700   1.000
          34-Canned: Boiled            1.000000  33   0.700   1.000
          42-Frozen: Cooked            1.000000  33   0.700   1.000
          51-Cured: NFS (smoked/pickled/saltd)
                                       1.000000  33   1.000   1.000
          52-Cured: Cooked(smokd/pickld/saltd)
                                       1.000000  33   1.000   1.000
356  P  Turkey-giblets (liver)
```

```
          12-Cooked: NFS          1.000000  33  0.700  1.000
358 P   Turkey- lean/fat free w/o bones
          12-Cooked: NFS          1.000000  33  0.700  1.000
          13-Baked              1.000000  33  0.700  1.000
          14-Boiled             1.000000  33  0.700  1.000
          15-Fried              1.000000  33  0.700  1.000
          31-Canned: NFS          1.000000  33  1.000  1.000
          32-Canned: Cooked       1.000000  33  0.700  1.000
          34-Canned: Boiled       1.000000  33  0.700  1.000
          42-Frozen: Cooked       1.000000  33  0.700  1.000
          51-Cured: NFS (smoked/pickled/saltd)
                                1.000000  33  1.000  1.000
          52-Cured: Cooked(smokd/pickld/saltd)
                                1.000000  33  1.000  1.000
449 P   Turkey-other organ meats
          12-Cooked: NFS          1.000000  33  0.700  1.000
219 1AB Turnips-roots
          11-Uncooked           2.000000   0  1.000  1.000
          12-Cooked: NFS         2.000000   0  0.700  1.000
          14-Boiled             2.000000   0  0.700  1.000
188 2   Turnips-tops
          14-Boiled             2.000000   0  0.700  1.000
          32-Canned: Cooked       2.000000   0  0.700  1.000
          44-Frozen: Boiled       2.000000   0  0.700  1.000
429 M   Veal-dried            1.000000  32  1.920  1.000
424 M   Veal-fat w/o bones
          12-Cooked: NFS          1.000000  32  0.700  1.000
          13-Baked              1.000000  32  0.700  1.000
          14-Boiled             1.000000  32  0.700  1.000
          15-Fried              1.000000  32  0.700  1.000
          31-Canned: NFS          1.000000  32  1.000  1.000
426 M   Veal-kidney
          15-Fried              1.000000  32  0.700  1.000
425 M   Veal-lean (fat free) w/o bones
          12-Cooked: NFS          1.000000  32  0.700  1.000
          13-Baked              1.000000  32  0.700  1.000
          14-Boiled             1.000000  32  0.700  1.000
          15-Fried              1.000000  32  0.700  1.000
          31-Canned: NFS          1.000000  32  1.000  1.000
427 M   Veal-liver
          14-Boiled             1.000000  32  0.700  1.000
430 M   Veal-meat byproducts      1.000000  32  1.000  1.000
428 M   Veal-other organ meats    1.000000  32  1.000  1.000
147 9A  Watermelon
          11-Uncooked           1.000000  40  1.000  1.000
```

```
436  9A  Watermelon-juice              1.000000  40  1.000  1.000
278  15  Wheat-bran
         11-Uncooked              0.010000   0  1.000  1.000
         12-Cooked: NFS           0.010000   0  0.800  1.000
         13-Baked                 0.010000   0  0.800  1.000
279  15  Wheat-flour
         11-Uncooked              0.010000   0  1.000  1.000
         12-Cooked: NFS           0.010000   0  0.800  1.000
         13-Baked                 0.010000   0  0.800  1.000
         14-Boiled                0.010000   0  0.800  1.000
         15-Fried                 0.010000   0  0.800  1.000
         31-Canned: NFS           0.010000   0  1.000  1.000
         32-Canned: Cooked        0.010000   0  0.800  1.000
         33-Canned: Baked         0.010000   0  0.800  1.000
         34-Canned: Boiled        0.010000   0  0.800  1.000
         41-Frozen: NFS           0.010000   0  1.000  1.000
         42-Frozen: Cooked        0.010000   0  0.800  1.000
         43-Frozen: Baked         0.010000   0  0.800  1.000
         45-Frozen: Fried         0.010000   0  0.800  1.000
         52-Cured: Cooked(smokd/pickld/saltd)
                                  0.010000   0  1.000  1.000
277  15  Wheat-germ
         12-Cooked: NFS           0.010000   0  0.800  1.000
         13-Baked                 0.010000   0  0.800  1.000
         14-Boiled                0.010000   0  0.800  1.000
437  15  Wheat-germ oil
         13-Baked                 0.010000   0  0.800  1.000
276  15  Wheat-rough
         11-Uncooked              0.010000   0  1.000  1.000
         12-Cooked: NFS           0.010000   0  0.800  1.000
         13-Baked                 0.010000   0  0.800  1.000
         14-Boiled                0.010000   0  0.800  1.000
```

Attachment 3: The exposure for all commodities with all the cooking factors being incorporated.

U.S. Environmental Protection Agency   Ver. 6.78
DEEM ACUTE analysis for DIMETHOATE   (1989-92 data)
Residue file: dimeth-all-2-CF.R96   Adjustment factor #2 used.
Analysis Date: 08-02-1999/09:28:32   Residue file dated: 08-02-1999/08:55:42/8
Acute Reference Dose (aRfD) =   0.020000 mg/kg body-wt/day
NOEL (Acute) =   2.000000 mg/kg body-wt/day
MC iterations = 1000   MC list in residue file   MC seed =   15
==
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Summary calculations:

	5th Percentile			1st Percentile			0.1st Percentile	
Exposure	% aRfD	MOE	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE
U.S. pop - all seasons:								
0.000355	1.77	5634	0.003127	15.64	639	0.008229	41.14	243
U.S. pop - spring season:								
0.000319	1.59	6273	0.003213	16.07	622	0.009122	45.61	219
U.S. pop - summer season:								
0.000528	2.64	3790	0.003607	18.04	554	0.009407	47.03	212
U.S. pop - autumn season:								
0.000326	1.63	6130	0.002915	14.58	686	0.008244	41.22	242
U.S. pop - winter season:								
0.000313	1.56	6392	0.002846	14.23	702	0.006400	32.00	312
Northeast region:								
0.000369	1.85	5417	0.003308	16.54	604	0.008261	41.31	242

Midwest region:
 0.000218 1.09   9175 0.002417 12.08   827 0.007311 36.55   273
Southern region:
 0.000498 2.49   4020 0.003520 17.60   568 0.008638 43.19   231
Western region:
 0.000437 2.18   4581 0.002893 14.47   691 0.007470 37.35   267
Hispanics:
 0.000177 0.88 11330 0.002809 14.05   711 0.008826 44.13   226
Non-hispanic whites:
 0.000327 1.63   6121 0.002985 14.93   669 0.007419 37.10   269
Non-hispanic blacks:
 0.000803 4.01   2491 0.003847 19.24   519 0.011901 59.50   168
Non-hispanic other:
 0.001821 9.11   1098 0.004134 20.67   483 0.010650 53.25   187
All infants (<1 year):
 0.000350 1.75   5722 0.001307 6.53   1530 0.006265 31.32   319
Nursing infants (<1 year):
 0.000113 0.56 17701 0.000958 4.79   2088 0.004723 23.61   423
Non-nursing infants (<1 yr):
 0.000406 2.03   4921 0.001450 7.25   1379 0.006748 33.74   296
Children (1-6 years):
 0.000540 2.70   3700 0.004169 20.85   479 0.017287 86.43   115
Children (7-12 years):
 0.000260 1.30   7700 0.002693 13.47   742 0.007316 36.58   273
Females (13+/preg/not nsg):
 0.000206 1.03   9700 0.003669 18.34   545 0.005813 29.07   344
Females (13+/nursing):
 0.000774 3.87   2583 0.003609 18.05   554 0.004246 21.23   471
Females (13-19 yrs/np/nn):
 0.000163 0.82 12251 0.002613 13.06   765 0.011232 56.16   178
Females (20+ years/np/nn):
 0.000377 1.89   5304 0.003328 16.64   600 0.007348 36.74   272
Females (13-50 years):
 0.000193 0.97 10339 0.002913 14.56   686 0.008488 42.44   235
Males (13-19 years):
 0.000271 1.35   7390 0.002471 12.36   809 0.005630 28.15   355
Males (20+ years):
 0.000326 1.63   6126 0.002922 14.61   684 0.006078 30.39   329
Seniors (55+):
 0.001203 6.01   1662 0.003610 18.05   554 0.007099 35.50   281
Pacific Region:
 0.000619 3.10   3229 0.003057 15.28   654 0.007651 38.26   261

Attachment 3 (continued):

U.S. Environmental Protection Agency   Ver. 6.78
DEEM ACUTE analysis for DIMETHOATE   (1989-92 data)
Residue file: dimeth-all-2-CF.R96   Adjustment factor #2 used.
Analysis Date: 08-02-1999/09:28:31   Residue file dated: 08-02-1999/08:55:42/8
Acute Reference Dose (aRfD) =   0.020000 mg/kg body-wt/day
NOEL (Acute) =   2.000000 mg/kg body-wt/day
MC iterations = 1000   MC list in residue file   MC seed =   15
==
==========

U.S. pop - all seasons   Daily Exposure Analysis 1/
----------------------   (mg/kg body-weight/day)
                          per Capita   per User
                          ----------- -----------
         Mean   0.000145   0.000145
         Standard Deviation   0.000695   0.000696
         Margin of Exposure 2/   13,781   13,746
         Percent of aRfD   0.73   0.73

     Percent of Person-Days that are User-Days = 99.74%

  Estimated percentile of user-days exceeding calculated exposure
   in mg/kg body-wt/day and corresponding

Perc.	Exposure	% aRfD	MOE	Perc.	Exposure	% aRfD	MOE
90.00	0.000008	0.04	238,320	10.00	0.000121	0.60	16,592
80.00	0.000013	0.07	150,267	5.00	0.000356	1.78	5,625
70.00	0.000018	0.09	110,312	2.50	0.001522	7.61	1,313
60.00	0.000023	0.12	85,776	1.00	0.003130	15.65	638
50.00	0.000030	0.15	67,750	0.50	0.004308	21.54	464
40.00	0.000037	0.19	53,877	0.25	0.005753	28.77	347
30.00	0.000048	0.24	41,562	0.10	0.008233	41.16	242
20.00	0.000067	0.33	29,974				

  Estimated percentile of per-capita days exceeding calculated exposure
    in mg/kg body-wt/day and corresponding

Perc.	Exposure	% aRfD	MOE	Perc.	Exposure	% aRfD	MOE
90.00	0.000008	0.04	243,959	10.00	0.000120	0.60	16,611
80.00	0.000013	0.07	151,416	5.00	0.000355	1.77	5,634
70.00	0.000018	0.09	110,842	2.50	0.001519	7.60	1,316

60.00	0.000023	0.12	86,071	1.00	0.003127	15.64	639
50.00	0.000029	0.15	67,933	0.50	0.004305	21.53	464
40.00	0.000037	0.19	53,991	0.25	0.005750	28.75	347
30.00	0.000048	0.24	41,635	0.10	0.008229	41.14	243
20.00	0.000067	0.33	30,016				

1/ Analysis based on all three-day participant records in CSFII 1989-92 survey.

2/ Margin of Exposure = NOEL/ Dietary Exposure.

Attachment 4: Residue file for all commodities without any cooking factor(s) being incorporated.

Filename: C:\deem\dimethoate\dimeth-all-2.R96

Chemical name: dimethoate

RfD(Chronic): 0 mg/kg bw/day NOEL(Chronic): 0 mg/kg bw/day

RfD(Acute): .02 mg/kg bw/day NOEL(Acute): 2 mg/kg bw/day

Note: Not all the RDFs were used in the analysis.

RDF indices and file names for Monte Carlo Analysis

 1 LT-other.rdf

 2 LeafLT.rdf

 3 lettuce-head.rdf

 4 tomato-comingled.rdf

 5 WH.rdf

 6 spinach.rdf

 7 spinach-comingled.rdf

 8 COLLARDS.rdf

 9 Kale.rdf

10 BR.rdf

11 GRAPEFRUITS.rdf

12 OR.rdf

13 LEMON.rdf

14 tangerine.rdf

15 grapes-comingled.rdf

16 AP.rdf

17 AJ-2.rdf

18 TO.rdf
19 pepper-sweet-comingled.rdf
20 pepper-sweet.rdf
21 Pepper-hot.rdf
22 Beans-Green-comingled-94-5.rdf
23 endives.rdf
24 swiss chard.rdf
25 Pear-single-serving.rdf
26 pears-comingled.rdf
27 PT.rdf
28 cherries-comingled.rdf
29 MustardGreen-2.rdf
30 celery.rdf
31 Milk.rdf
32 Meat.rdf
33 Egg-Poultry.rdf
34 Cabbage-non-Processed.rdf
35 CAUL.rdf
36 cottonseed.rdf
37 safflower.rdf
38 cantaloup.rdf
39 honeydew.rdf
40 watermelon.rdf
41 melons.rdf
42 pecans.rdf
43 sweet PT.rdf
44 Apple-comingled.rdf
45 Apple-blended.rdf
46 blueberries-comingled.rdf
47 Cabbage-Processed.rdf
48 Collards-comingled.rdf
49 Kale-comingled.rdf
50 lemon-comingled.rdf
51 Let-unsp-comingled.rdf
52 OR-comingled.rdf
53 pears-blended.rdf
54 SweetPeas-comingled-94-5.rdf
55 Pepper-hot-comingled.rdf
56 tangerines-comingled.rdf
57 brusselsSp-comingled.rdf
58 orangeJuice.rdf
59 lemonJuice.rdf
60 grapefruit-juice.rdf
61 tangerineJuice.rdf
62 apple-PXtranslate.rdf

```
Food Crop                      RESIDUE   RDF  Adj.Factors    Comment
Code Grp Food Name               (ppm)    #    #1     #2
---- ---- ------------------------------- ---------- --- ------- ------- -------
  52 11  Apples
         11-Uncooked              1.000000  62  1.000  1.000
         12-Cooked: NFS           1.000000  62  1.000  1.000
         13-Baked                1.000000  62  1.000  1.000
         14-Boiled               1.000000  62  1.000  1.000
         15-Fried                1.000000  62  1.000  1.000
         18-Dried                1.000000  44  1.000  1.000
         31-Canned: NFS           1.000000  44  1.000  1.000
         32-Canned: Cooked         1.000000  44  1.000  1.000
         33-Canned: Baked         1.000000  44  1.000  1.000
         34-Canned: Boiled        1.000000  44  1.000  1.000
         42-Frozen: Cooked         1.000000  44  1.000  1.000
  53 11  Apples-dried
         13-Baked                0.005200   0  8.000  1.000
         14-Boiled               0.005200   0  8.000  1.000
         18-Dried                0.005200   0  8.000  1.000
         42-Frozen: Cooked         0.005200   0  8.000  1.000
  54 11  Apples-juice/cider
         11-Uncooked              1.000000  17  1.000  1.000
         12-Cooked: NFS           1.000000  17  1.000  1.000
         14-Boiled               1.000000  17  1.000  1.000
         31-Canned: NFS           1.000000  17  1.000  1.000
         41-Frozen: NFS           1.000000  17  1.000  1.000
 377 11  Apples-juice-concentrate
         12-Cooked: NFS           1.000000  17  3.000  1.000
         13-Baked                1.000000  17  3.000  1.000
         31-Canned: NFS           1.000000  17  3.000  1.000
         41-Frozen: NFS           1.000000  17  3.000  1.000
 260 O   Asparagus
         11-Uncooked              0.010000   0  1.000  1.000
         14-Boiled               0.010000   0  1.000  1.000
         32-Canned: Cooked         0.010000   0  1.000  1.000
         42-Frozen: Cooked         0.010000   0  1.000  1.000
 258 6C  Beans-dry-blackeye peas/cowpea   0.015000   0  1.000  1.000
 249 6C  Beans-dry-broadbeans          0.015000   0  1.000  1.000
 259 6C  Beans-dry-garbanzo/chick pea     0.015000   0  1.000  1.000
 227 6C  Beans-dry-great northern        0.015000   0  1.000  1.000
 256 6C  Beans-dry-hyacinth            0.015000   0  1.000  1.000
 228 6C  Beans-dry-kidney             0.015000   0  1.000  1.000
 229 6C  Beans-dry-lima              0.015000   0  1.000  1.000
 230 6C  Beans-dry-navy (pea)          0.015000   0  1.000  1.000
 231 6C  Beans-dry-other              0.015000   0  1.000  1.000
```

```
251 6C  Beans-dry-pigeon beans         0.015000   0  1.000  1.000
232 6C  Beans-dry-pinto               0.015000   0  1.000  1.000
250 6B  Beans-succulent-broadbeans      1.000000  22  1.000  1.000
234 6A  Beans-succulent-green
        11-Uncooked              1.000000  22  1.000  1.000
        12-Cooked: NFS            1.000000  22  1.000  1.000
        14-Boiled              1.000000  22  1.000  1.000
        31-Canned: NFS            1.000000  22  1.000  1.000
        32-Canned: Cooked          1.000000  22  1.000  1.000
        34-Canned: Boiled          1.000000  22  1.000  1.000
        42-Frozen: Cooked          1.000000  22  1.000  1.000
        44-Frozen: Boiled          1.000000  22  1.000  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                        1.000000  22  1.000  1.000
257 6   Beans-succulent-hyacinth       1.000000  22  1.000  1.000
233 6B  Beans-succulent-lima
        11-Uncooked              1.000000  22  1.000  1.000
        12-Cooked: NFS            1.000000  22  1.000  1.000
        14-Boiled              1.000000  22  1.000  1.000
        32-Canned: Cooked          1.000000  22  1.000  1.000
        42-Frozen: Cooked          1.000000  22  1.000  1.000
        44-Frozen: Boiled          1.000000  22  1.000  1.000
235 6A  Beans-succulent-other
        34-Canned: Boiled          1.000000  22  1.000  1.000
236 6A  Beans-succulent-yellow/wax
        14-Boiled              1.000000  22  1.000  1.000
        32-Canned: Cooked          1.000000  22  1.000  1.000
        42-Frozen: Cooked          1.000000  22  1.000  1.000
253 6   Beans-unspecified           1.000000  22  1.000  1.000
323 M   Beef-dried              1.000000  32  1.920  1.000
324 M   Beef-fat w/o bones
        11-Uncooked              1.000000  32  1.000  1.000
        12-Cooked: NFS            1.000000  32  1.000  1.000
        13-Baked               1.000000  32  1.000  1.000
        14-Boiled              1.000000  32  1.000  1.000
        15-Fried               1.000000  32  1.000  1.000
        31-Canned: NFS            1.000000  32  1.000  1.000
        32-Canned: Cooked          1.000000  32  1.000  1.000
        34-Canned: Boiled          1.000000  32  1.000  1.000
        42-Frozen: Cooked          1.000000  32  1.000  1.000
        45-Frozen: Fried           1.000000  32  1.000  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                        1.000000  32  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                        1.000000  32  1.000  1.000
```

59-Cured: Dried (smokd/pickld/saltd)
        1.000000 32 1.000 1.000

325 M   Beef-kidney
    12-Cooked: NFS   1.000000 32 1.000 1.000
    15-Fried   1.000000 32 1.000 1.000

327 M   Beef-lean (fat/free) w/o bones
    11-Uncooked   1.000000 32 1.000 1.000
    12-Cooked: NFS   1.000000 32 1.000 1.000
    13-Baked   1.000000 32 1.000 1.000
    14-Boiled   1.000000 32 1.000 1.000
    15-Fried   1.000000 32 1.000 1.000
    31-Canned: NFS   1.000000 32 1.000 1.000
    32-Canned: Cooked   1.000000 32 1.000 1.000
    33-Canned: Baked   1.000000 32 1.000 1.000
    34-Canned: Boiled   1.000000 32 1.000 1.000
    42-Frozen: Cooked   1.000000 32 1.000 1.000
    51-Cured: NFS (smoked/pickled/saltd)
        1.000000 32 1.000 1.000
    52-Cured: Cooked(smokd/pickld/saltd)
        1.000000 32 1.000 1.000
    59-Cured: Dried (smokd/pickld/saltd)
        1.000000 32 1.000 1.000

326 M   Beef-liver
    12-Cooked: NFS   1.000000 32 1.000 1.000
    14-Boiled   1.000000 32 1.000 1.000
    15-Fried   1.000000 32 1.000 1.000

321 M   Beef-meat byproducts
    12-Cooked: NFS   1.000000 32 1.000 1.000
    52-Cured: Cooked(smokd/pickld/saltd)
        1.000000 32 1.000 1.000

322 M   Beef-other organ meats
    12-Cooked: NFS   1.000000 32 1.000 1.000
    14-Boiled   1.000000 32 1.000 1.000
    52-Cured: Cooked(smokd/pickld/saltd)
        1.000000 32 1.000 1.000

  7 13B Blueberries
    11-Uncooked   1.000000 46 1.000 1.000
    12-Cooked: NFS   1.000000 46 1.000 1.000
    13-Baked   1.000000 46 1.000 1.000
    14-Boiled   1.000000 46 1.000 1.000
    15-Fried   1.000000 46 1.000 1.000
    31-Canned: NFS   1.000000 46 1.000 1.000
    41-Frozen: NFS   1.000000 46 1.000 1.000

452 5B Bok choy
    11-Uncooked   1.000000 34 1.000 1.000

```
            12-Cooked: NFS              1.000000  47  1.000  1.000
            14-Boiled              1.000000  47  1.000  1.000
            42-Frozen: Cooked           1.000000  47  1.000  1.000
            51-Cured: NFS (smoked/pickled/saltd)
                                   1.000000  47  1.000  1.000
168  5A  Broccoli
            11-Uncooked               1.000000  10  1.000  1.000
            12-Cooked: NFS             1.000000  10  1.000  1.000
            13-Baked              1.000000  10  1.000  1.000
            14-Boiled              1.000000  10  1.000  1.000
            15-Fried              1.000000  10  1.000  1.000
            32-Canned: Cooked           1.000000  10  1.000  1.000
            42-Frozen: Cooked           1.000000  10  1.000  1.000
            44-Frozen: Boiled           1.000000  10  1.000  1.000
169  5A  Brussels sprouts
            14-Boiled              1.000000  57  1.000  1.000
            42-Frozen: Cooked           1.000000  57  1.000  1.000
170  5A  Cabbage-green and red
            11-Uncooked               1.000000  34  1.000  1.000
            12-Cooked: NFS             1.000000  47  1.000  1.000
            13-Baked              1.000000  47  1.000  1.000
            14-Boiled              1.000000  47  1.000  1.000
            15-Fried              1.000000  47  1.000  1.000
            31-Canned: NFS             1.000000  47  1.000  1.000
            32-Canned: Cooked           1.000000  47  1.000  1.000
            51-Cured: NFS (smoked/pickled/saltd)
                                   1.000000  47  1.000  1.000
383  5B  Cabbage-savoy
            12-Cooked: NFS             1.000000  47  1.000  1.000
143  9A  Casabas
            11-Uncooked               1.000000  41  1.000  1.000
171  5A  Cauliflower
            11-Uncooked               1.000000  35  1.000  1.000
            12-Cooked: NFS             1.000000  35  1.000  1.000
            14-Boiled              1.000000  35  1.000  1.000
            15-Fried              1.000000  35  1.000  1.000
            42-Frozen: Cooked           1.000000  35  1.000  1.000
166  4B  Celery               1.000000  30  1.000  1.000
384  4B  Celery juice              1.000000  30  1.000  1.000
 61  12  Cherries
            11-Uncooked               1.000000  28  1.000  1.000
            12-Cooked: NFS             1.000000  28  1.000  1.000
            13-Baked              1.000000  28  1.000  1.000
            14-Boiled              1.000000  28  1.000  1.000
            31-Canned: NFS             1.000000  28  1.000  1.000
```

		33-Canned: Baked	1.000000	28	1.000	1.000
		41-Frozen: NFS	1.000000	28	1.000	1.000
62	12	Cherries-dried	0.018000	0	4.000	1.000
63	12	Cherries-juice				
		13-Baked	1.000000	28	1.500	1.000
		14-Boiled	1.000000	28	1.500	1.000
		31-Canned: NFS	1.000000	28	1.500	1.000
		41-Frozen: NFS	1.000000	28	1.500	1.000
366	P	Chicken-byproducts				
		12-Cooked: NFS	1.000000	33	1.000	1.000
		34-Canned: Boiled	1.000000	33	1.000	1.000
368	P	Chicken-fat w/o bones				
		12-Cooked: NFS	1.000000	33	1.000	1.000
		13-Baked	1.000000	33	1.000	1.000
		14-Boiled	1.000000	33	1.000	1.000
		15-Fried	1.000000	33	1.000	1.000
		31-Canned: NFS	1.000000	33	1.000	1.000
		32-Canned: Cooked	1.000000	33	1.000	1.000
		34-Canned: Boiled	1.000000	33	1.000	1.000
		42-Frozen: Cooked	1.000000	33	1.000	1.000
367	P	Chicken-giblets(liver)				
		12-Cooked: NFS	1.000000	33	1.000	1.000
		13-Baked	1.000000	33	1.000	1.000
		15-Fried	1.000000	33	1.000	1.000
		42-Frozen: Cooked	1.000000	33	1.000	1.000
385	P	Chicken-giblets (excl. liver)				
		12-Cooked: NFS	1.000000	33	1.000	1.000
		14-Boiled	1.000000	33	1.000	1.000
		34-Canned: Boiled	1.000000	33	1.000	1.000
		42-Frozen: Cooked	1.000000	33	1.000	1.000
369	P	Chicken-lean/fat free w/o bones				
		12-Cooked: NFS	1.000000	33	1.000	1.000
		13-Baked	1.000000	33	1.000	1.000
		14-Boiled	1.000000	33	1.000	1.000
		15-Fried	1.000000	33	1.000	1.000
		31-Canned: NFS	1.000000	33	1.000	1.000
		32-Canned: Cooked	1.000000	33	1.000	1.000
		34-Canned: Boiled	1.000000	33	1.000	1.000
		42-Frozen: Cooked	1.000000	33	1.000	1.000
172	5B	Collards				
		14-Boiled	1.000000	8	1.000	1.000
		32-Canned: Cooked	1.000000	8	1.000	1.000
		42-Frozen: Cooked	1.000000	8	1.000	1.000
267	15	Corn grain-bran	0.001000	0	1.000	1.000
266	15	Corn grain-endosperm	0.001000	0	0.400	1.000

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289 15  Corn grain-oil              0.001000   0  0.300  1.000
268 15  Corn grain/sugar/hfcs       0.001000   0  1.500  1.000
388 15  Corn grain/sugar-molasses   0.001000   0  1.500  1.000
237 15  Corn/pop                    0.001000   0  1.000  1.000
291 O   Cottonseed-meal
        13-Baked                    0.010000   0  1.330  1.000
290 O   Cottonseed-oil
        98-Refined                  0.010000   0  0.600  1.000
144 9A  Crenshaws                   1.000000  39  1.000  1.000
364 P   Eggs-white only
        11-Uncooked                 1.000000  33  1.000  1.000
        12-Cooked: NFS              1.000000  33  1.000  1.000
        13-Baked                    1.000000  33  1.000  1.000
        14-Boiled                   1.000000  33  1.000  1.000
        31-Canned: NFS              1.000000  33  1.000  1.000
        32-Canned: Cooked           1.000000  33  1.000  1.000
        34-Canned: Boiled           1.000000  33  1.000  1.000
        41-Frozen: NFS              1.000000  33  1.000  1.000
        42-Frozen: Cooked           1.000000  33  1.000  1.000
363 P   Eggs-whole
        11-Uncooked                 1.000000  33  1.000  1.000
        12-Cooked: NFS              1.000000  33  1.000  1.000
        13-Baked                    1.000000  33  1.000  1.000
        14-Boiled                   1.000000  33  1.000  1.000
        15-Fried                    1.000000  33  1.000  1.000
        31-Canned: NFS              1.000000  33  1.000  1.000
        34-Canned: Boiled           1.000000  33  1.000  1.000
        41-Frozen: NFS              1.000000  33  1.000  1.000
        42-Frozen: Cooked           1.000000  33  1.000  1.000
        45-Frozen: Fried            1.000000  33  1.000  1.000
365 P   Eggs-yolk only
        11-Uncooked                 1.000000  33  1.000  1.000
        12-Cooked: NFS              1.000000  33  1.000  1.000
        13-Baked                    1.000000  33  1.000  1.000
        14-Boiled                   1.000000  33  1.000  1.000
        15-Fried                    1.000000  33  1.000  1.000
        31-Canned: NFS              1.000000  33  1.000  1.000
        32-Canned: Cooked           1.000000  33  1.000  1.000
        34-Canned: Boiled           1.000000  33  1.000  1.000
        41-Frozen: NFS              1.000000  33  1.000  1.000
178 4A  Endive-curley and escarole
        11-Uncooked                 1.000000  23  1.000  1.000
        12-Cooked: NFS              1.000000  23  1.000  1.000
330 M   Goat-fat w/o bone
        13-Baked                    1.000000  32  1.000  1.000
```

		14-Boiled	1.000000	32	1.000	1.000
331	M	Goat-kidney	1.000000	32	1.000	1.000
333	M	Goat-lean (fat/free) w/o bone				
		13-Baked	1.000000	32	1.000	1.000
		14-Boiled	1.000000	32	1.000	1.000
332	M	Goat-liver	1.000000	32	1.000	1.000
328	M	Goat-meat byproducts	1.000000	32	1.000	1.000
329	M	Goat-other organ meats	1.000000	32	1.000	1.000
23	10	Grapefruit-juice	1.000000	60	1.200	1.000
441	10	Grapefruit-juice-concentrate	1.000000	60	4.600	1.000
448	10	Grapefruit peel	1.000000	11	1.000	1.000
22	10	Grapefruit-peeled fruit				
		11-Uncooked	1.000000	11	1.000	1.000
		12-Cooked: NFS	1.000000	11	1.000	1.000
		31-Canned: NFS	1.000000	11	1.000	1.000
13	O	Grapes	1.000000	15	1.000	1.000
15	O	Grapes-juice	1.000000	15	1.200	1.000
392	O	Grapes-juice-concentrate	1.000000	15	3.600	1.000
195	O	Grapes-leaves				
		14-Boiled	1.000000	15	1.000	1.000
14	O	Grapes-raisins				
		11-Uncooked	1.000000	15	1.000	1.000
		12-Cooked: NFS	1.000000	15	1.000	1.000
		13-Baked	1.000000	15	1.000	1.000
		14-Boiled	1.000000	15	1.000	1.000
		18-Dried	1.000000	15	1.000	1.000
		42-Frozen: Cooked	1.000000	15	1.000	1.000
315	O	Grapes-wine and sherry	1.000000	15	1.000	1.000
334	M	Horsemeat	1.000000	32	1.000	1.000
174	5B	Kale				
		12-Cooked: NFS	1.000000	9	1.000	1.000
		14-Boiled	1.000000	9	1.000	1.000
		32-Canned: Cooked	1.000000	9	1.000	1.000
28	10	Lemons-juice	1.000000	59	1.100	1.000
442	10	Lemons-juice-concentrate	1.000000	59	6.300	1.000
27	10	Lemons-peel				
		11-Uncooked	1.000000	50	46.000	1.000
		13-Baked	1.000000	50	46.000	1.000
		14-Boiled	1.000000	50	46.000	1.000
		31-Canned: NFS	1.000000	50	46.000	1.000
		34-Canned: Boiled	1.000000	50	46.000	1.000
		41-Frozen: NFS	1.000000	50	46.000	1.000
26	10	Lemons-peeled fruit				
		11-Uncooked	1.000000	13	1.000	1.000
		12-Cooked: NFS	1.000000	13	1.000	1.000

```
        31-Canned: NFS              1.000000  50  1.000  1.000
243 6C  Lentils                     0.018000   0  1.000  1.000
182 4A  Lettuce-unspecified
        31-Canned: NFS              1.000000  51  1.000  1.000
176 4A  Lettuce-leafy varieties
        11-Uncooked                 1.000000   2  1.000  1.000
192 4A  Lettuce-head varieties
        11-Uncooked                 1.000000   3  1.000  1.000
141 9A  Melons-cantaloupes-juice       1.000000  38  1.000  1.000
142 9A  Melons-cantaloupes-pulp        1.000000  38  1.000  1.000
145 9A  Melons-honeydew              1.000000  39  1.000  1.000
146 9A  Melons-persian             1.000000  41  1.000  1.000
398 D   Milk-based water
        12-Cooked: NFS              1.000000  31  1.000  1.000
        13-Baked               1.000000  31  1.000  1.000
        14-Boiled              1.000000  31  1.000  1.000
        15-Fried               1.000000  31  1.000  1.000
        16-Pasteurized          1.000000  31  1.000  1.000
        18-Dried               1.000000  31  1.000  1.000
        31-Canned: NFS              1.000000  31  1.000  1.000
        32-Canned: Cooked            1.000000  31  1.000  1.000
        33-Canned: Baked             1.000000  31  1.000  1.000
        34-Canned: Boiled            1.000000  31  1.000  1.000
        41-Frozen: NFS             1.000000  31  1.000  1.000
        42-Frozen: Cooked            1.000000  31  1.000  1.000
        43-Frozen: Baked             1.000000  31  1.000  1.000
        45-Frozen: Fried            1.000000  31  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                         1.000000  31  1.000  1.000
319 D   Milk-fat solids
        12-Cooked: NFS              1.000000  31  1.000  1.000
        13-Baked               1.000000  31  1.000  1.000
        14-Boiled              1.000000  31  1.000  1.000
        15-Fried               1.000000  31  1.000  1.000
        16-Pasteurized          1.000000  31  1.000  1.000
        18-Dried               1.000000  31  1.000  1.000
        31-Canned: NFS              1.000000  31  1.000  1.000
        32-Canned: Cooked            1.000000  31  1.000  1.000
        34-Canned: Boiled            1.000000  31  1.000  1.000
        41-Frozen: NFS             1.000000  31  1.000  1.000
        42-Frozen: Cooked            1.000000  31  1.000  1.000
        45-Frozen: Fried            1.000000  31  1.000  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                         1.000000  31  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
```

```
                         1.000000  31  1.000  1.000
318  D   Milk-nonfat solids
        12-Cooked: NFS           1.000000  31  1.000  1.000
        13-Baked          1.000000  31  1.000  1.000
        14-Boiled         1.000000  31  1.000  1.000
        15-Fried          1.000000  31  1.000  1.000
        16-Pasteurized      1.000000  31  1.000  1.000
        18-Dried          1.000000  31  1.000  1.000
        31-Canned: NFS           1.000000  31  1.000  1.000
        32-Canned: Cooked         1.000000  31  1.000  1.000
        34-Canned: Boiled        1.000000  31  1.000  1.000
        41-Frozen: NFS          1.000000  31  1.000  1.000
        42-Frozen: Cooked        1.000000  31  1.000  1.000
        43-Frozen: Baked         1.000000  31  1.000  1.000
        45-Frozen: Fried        1.000000  31  1.000  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                        1.000000  31  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                        1.000000  31  1.000  1.000
        98-Refined          1.000000  31  1.000  1.000
320  D   Milk sugar (lactose)
        12-Cooked: NFS           1.000000  31  1.000  1.000
        13-Baked          1.000000  31  1.000  1.000
        14-Boiled         1.000000  31  1.000  1.000
        15-Fried          1.000000  31  1.000  1.000
        16-Pasteurized      1.000000  31  1.000  1.000
        18-Dried          1.000000  31  1.000  1.000
        31-Canned: NFS           1.000000  31  1.000  1.000
        32-Canned: Cooked         1.000000  31  1.000  1.000
        34-Canned: Boiled        1.000000  31  1.000  1.000
        41-Frozen: NFS          1.000000  31  1.000  1.000
        42-Frozen: Cooked        1.000000  31  1.000  1.000
        45-Frozen: Fried        1.000000  31  1.000  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                        1.000000  31  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                        1.000000  31  1.000  1.000
183  5B  Mustard greens
        14-Boiled         1.000000  29  1.000  1.000
 36  10  Oranges-juice              1.000000  58  1.000  1.000
 33  10  Oranges-juice-concentrate       1.000000  58  3.700  1.000
 35  10  Oranges-peel
        11-Uncooked         1.000000  12 46.000  1.000
        12-Cooked: NFS          1.000000  12 46.000  1.000
        31-Canned: NFS          1.000000  52 46.000  1.000
```

```
        41-Frozen: NFS          1.000000  52  46.000  1.000
 34 10  Oranges-peeled fruit
        11-Uncooked             1.000000  12   1.000  1.000
        12-Cooked: NFS          1.000000  12   1.000  1.000
        31-Canned: NFS          1.000000  52   1.000  1.000
 56 11  Pears
        11-Uncooked             1.000000  25   1.000  1.000
        12-Cooked: NFS          1.000000  25   1.000  1.000
        13-Baked                1.000000  25   1.000  1.000
        14-Boiled               1.000000  25   1.000  1.000
        31-Canned: NFS          1.000000  25   1.000  1.000
 57 11  Pears-dried
        13-Baked                0.000500   0   6.250  1.000
        14-Boiled               0.000500   0   6.250  1.000
        18-Dried                0.000500   0   6.250  1.000
404 11  Pears-juice
        11-Uncooked             1.000000  25   1.000  1.000
        12-Cooked: NFS          1.000000  25   1.000  1.000
        13-Baked                1.000000  25   1.000  1.000
        31-Canned: NFS          1.000000  25   1.000  1.000
        33-Canned: Baked        1.000000  25   1.000  1.000
        41-Frozen: NFS          1.000000  25   1.000  1.000
        42-Frozen: Cooked       1.000000  25   1.000  1.000
240 6C  Peas (garden)-dry       0.015000   0   1.000  1.000
241 6AB Peas (garden)-green     1.000000  54   1.000  1.000
405 6B  Peas-succulent/blackeye/cowpea
        12-Cooked: NFS          1.000000  54   1.000  1.000
        14-Boiled               1.000000  54   1.000  1.000
        32-Canned: Cooked       1.000000  54   1.000  1.000
        42-Frozen: Cooked       1.000000  54   1.000  1.000
 47 14  Pecans
        11-Uncooked             1.000000  42   1.000  1.000
        13-Baked                1.000000  42   1.000  1.000
        14-Boiled               1.000000  42   1.000  1.000
156  8  Peppers-chilli incl jalapeno
        11-Uncooked             1.000000  21   1.000  1.000
        12-Cooked: NFS          1.000000  21   1.000  1.000
        13-Baked                1.000000  21   1.000  1.000
        14-Boiled               1.000000  21   1.000  1.000
        15-Fried                1.000000  21   1.000  1.000
        31-Canned: NFS          1.000000  55   1.000  1.000
        32-Canned: Cooked       1.000000  55   1.000  1.000
        33-Canned: Baked        1.000000  55   1.000  1.000
        34-Canned: Boiled       1.000000  55   1.000  1.000
        42-Frozen: Cooked       1.000000  55   1.000  1.000
```

```
        51-Cured: NFS (smoked/pickled/saltd)
                          1.000000  55  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                          1.000000  55  1.000  1.000
        60-Canned: Cured        1.000000  55  1.000  1.000
157  8   Peppers-other
        11-Uncooked             1.000000  20  1.000  1.000
155  8   Peppers-sweet(garden)
        11-Uncooked             1.000000  20  1.000  1.000
        12-Cooked: NFS          1.000000  20  1.000  1.000
        13-Baked                1.000000  20  1.000  1.000
        14-Boiled               1.000000  20  1.000  1.000
        31-Canned: NFS          1.000000  19  1.000  1.000
        32-Canned: Cooked       1.000000  19  1.000  1.000
        34-Canned: Boiled       1.000000  19  1.000  1.000
        42-Frozen: Cooked       1.000000  19  1.000  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                          1.000000  19  1.000  1.000
158  8   Pimientos
        12-Cooked: NFS          1.000000  20  1.000  1.000
        14-Boiled               1.000000  20  1.000  1.000
        31-Canned: NFS          1.000000  19  1.000  1.000
        60-Canned: Cured        1.000000  19  1.000  1.000
344  M   Pork-fat w/o bone
        11-Uncooked             1.000000  32  1.000  1.000
        12-Cooked: NFS          1.000000  32  1.000  1.000
        13-Baked                1.000000  32  1.000  1.000
        14-Boiled               1.000000  32  1.000  1.000
        15-Fried                1.000000  32  1.000  1.000
        31-Canned: NFS          1.000000  32  1.000  1.000
        32-Canned: Cooked       1.000000  32  1.000  1.000
        34-Canned: Boiled       1.000000  32  1.000  1.000
        42-Frozen: Cooked       1.000000  32  1.000  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                          1.000000  32  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                          1.000000  32  1.000  1.000
        60-Canned: Cured        1.000000  32  1.000  1.000
345  M   Pork-kidney             1.000000  32  1.000  1.000
347  M   Pork-lean (fat free) w/o bone
        12-Cooked: NFS          1.000000  32  1.000  1.000
        13-Baked                1.000000  32  1.000  1.000
        14-Boiled               1.000000  32  1.000  1.000
        15-Fried                1.000000  32  1.000  1.000
        31-Canned: NFS          1.000000  32  1.000  1.000
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        32-Canned: Cooked          1.000000  32  1.000  1.000
        34-Canned: Boiled          1.000000  32  1.000  1.000
        42-Frozen: Cooked          1.000000  32  1.000  1.000
        51-Cured: NFS (smoked/pickled/saltd)
                                   1.000000  32  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                                   1.000000  32  1.000  1.000
        60-Canned: Cured           1.000000  32  1.000  1.000
346  M   Pork-liver
        12-Cooked: NFS             1.000000  32  1.000  1.000
        15-Fried                   1.000000  32  1.000  1.000
342  M   Pork-meat byproducts
        12-Cooked: NFS             1.000000  32  1.000  1.000
        14-Boiled                  1.000000  32  1.000  1.000
        15-Fried                   1.000000  32  1.000  1.000
        52-Cured: Cooked(smokd/pickld/saltd)
                                   1.000000  32  1.000  1.000
343  M   Pork-other organ meats
        12-Cooked: NFS             1.000000  32  1.000  1.000
        15-Fried                   1.000000  32  1.000  1.000
210 1C   Potatoes/white-dry        0.000400   0  0.250  1.000
209 1C   Potatoes/white-peeled     1.000000  27  0.250  1.000
211 1C   Potatoes/white-peel only  1.000000  27  0.900  1.000
208 1C   Potatoes/white-unspecified 1.000000  27  1.000  1.000
207 1C   Potatoes/white-whole      1.000000  27  1.000  1.000
362  P   Poultry-other-fat w/o bones 1.000000 33  1.000  1.000
361  P   Poultry-other-giblets(liver) 1.000000 33 1.000  1.000
360  P   Poultry-other-lean (fat free) w/ 1.000000 33 1.000 1.000
295  O   Safflower-oil
        98-Refined                 0.041000   0  1.000  1.000
294  O   Safflower-seed            0.041000   0  1.000  1.000
338  M   Sheep-fat w/o bone        1.000000  32  1.000  1.000
339  M   Sheep-kidney              1.000000  32  1.000  1.000
341  M   Sheep-lean (fat free) w/o bone 1.000000 32 1.000 1.000
340  M   Sheep-liver               1.000000  32  1.000  1.000
336  M   Sheep-meat byproducts     1.000000  32  1.000  1.000
337  M   Sheep-other organ meats   1.000000  32  1.000  1.000
275 15   Sorghum (including milo)   0.000100   0  1.000  1.000
303 6A   Soybean-other             0.000100   0  1.000  1.000
307 6A   Soybeans-flour (defatted)  0.000100   0  1.000  1.000
306 6A   Soybeans-flour (low fat)   0.000100   0  1.000  1.000
305 6A   Soybeans-flour (full fat)  0.000100   0  1.000  1.000
304 6A   Soybeans-mature seeds dry   0.000100   0  1.000  1.000
297 6A   Soybeans-oil              0.000100   0  1.000  1.000
482  O   Soybeans-protein isolate   0.000100   0  1.000  1.000
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255  6A   Soybeans-sprouted seeds        0.000100   0   0.330   1.000
186  4A   Spinach
          11-Uncooked              1.000000    7   1.000   1.000
          12-Cooked: NFS           1.000000    7   1.000   1.000
          14-Boiled              1.000000    7   1.000   1.000
          31-Canned: NFS           1.000000    7   1.000   1.000
          32-Canned: Cooked         1.000000    7   1.000   1.000
          34-Canned: Boiled         1.000000    7   1.000   1.000
          42-Frozen: Cooked         1.000000    7   1.000   1.000
          44-Frozen: Boiled         1.000000    7   1.000   1.000
218  1CD  Sweet potatoes (incl yams)      1.000000   43   1.000   1.000
418  2    Sweet potatos-leaves          1.000000   43   1.000   1.000
187  4B   Swiss chard
          11-Uncooked              1.000000    7   1.000   1.000
          14-Boiled              1.000000    7   1.000   1.000
 37  10   Tangelos               1.000000   14   1.000   1.000
 38  10   Tangerines
          11-Uncooked              1.000000   14   1.000   1.000
          31-Canned: NFS           1.000000   56   1.000   1.000
          41-Frozen: NFS           1.000000   56   1.000   1.000
 39  10   Tangerines-juice           1.000000   61   1.300   1.000
420  10   Tangerines-juice-concentrate    1.000000   61   4.100   1.000
163  8    Tomatoes-catsup            0.002500   0   1.600   1.000
423  8    Tomatoes-dried
          12-Cooked: NFS           0.002500   0  14.300   1.000
          15-Fried              0.002500   0  14.300   1.000
160  8    Tomatoes-juice             0.002500   0   0.100   1.000
162  8    Tomatoes-paste             0.002500   0   2.600   1.000
161  8    Tomatoes-puree             0.002500   0   1.500   1.000
159  8    Tomatoes-whole
          11-Uncooked              1.000000   18   1.000   1.000
          12-Cooked: NFS           1.000000   18   1.000   1.000
          13-Baked               1.000000   18   1.000   1.000
          14-Boiled              1.000000   18   1.000   1.000
          15-Fried               1.000000   18   1.000   1.000
          31-Canned: NFS           1.000000    4   1.000   1.000
          32-Canned: Cooked         1.000000    4   1.000   1.000
          33-Canned: Baked          1.000000    4   1.000   1.000
          34-Canned: Boiled         1.000000    4   1.000   1.000
          42-Frozen: Cooked         1.000000    4   1.000   1.000
355  P    Turkey-byproducts           1.000000   33   1.000   1.000
357  P    Turkey--fat w/o bones         1.000000   33   1.000   1.000
356  P    Turkey-giblets (liver)         1.000000   33   1.000   1.000
358  P    Turkey- lean/fat free w/o bones  1.000000   33   1.000   1.000
449  P    Turkey-other organ meats        1.000000   33   1.000   1.000
```

219	1AB	Turnips-roots	2.000000	0	1.000	1.000
188	2	Turnips-tops	2.000000	0	1.000	1.000
429	M	Veal-dried	1.000000	32	1.920	1.000
424	M	Veal-fat w/o bones	1.000000	32	1.000	1.000
426	M	Veal-kidney	1.000000	32	1.000	1.000
425	M	Veal-lean (fat free) w/o bones	1.000000	32	1.000	1.000
427	M	Veal-liver	1.000000	32	1.000	1.000
430	M	Veal-meat byproducts	1.000000	32	1.000	1.000
428	M	Veal-other organ meats	1.000000	32	1.000	1.000
147	9A	Watermelon	1.000000	40	1.000	1.000
436	9A	Watermelon-juice	1.000000	40	1.000	1.000
278	15	Wheat-bran	0.010000	0	1.000	1.000
279	15	Wheat-flour	0.010000	0	1.000	1.000
277	15	Wheat-germ	0.010000	0	1.000	1.000
437	15	Wheat-germ oil	0.010000	0	1.000	1.000
276	15	Wheat-rough	0.010000	0	1.000	1.000

Attachment 5: The exposure for all commodities <u>without</u> any cooking factors being incorporated.

U.S. Environmental Protection Agency   Ver. 6.78
DEEM ACUTE analysis for DIMETHOATE   (1989-92 data)
Residue file: dimeth-all-2.R96   Adjustment factor #2 used.
Analysis Date: 07-27-1999/08:27:05   Residue file dated: 07-27-1999/07:56:45/8
Acute Reference Dose (aRfD) =   0.020000 mg/kg body-wt/day
NOEL (Acute) =   2.000000 mg/kg body-wt/day
MC iterations = 1000   MC list in residue file   MC seed =   15
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Summary calculations:

	5th Percentile			1st Percentile			0.1st Percentile		
	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE	Exposure	% aRfD	MOE
U.S. pop - all seasons:									
	0.000421	2.11	4749	0.003900	19.50	512	0.009748	48.74	205
U.S. pop - spring season:									
	0.000376	1.88	5318	0.004184	20.92	478	0.010364	51.82	192
U.S. pop - summer season:									
	0.000612	3.06	3270	0.004011	20.05	498	0.010283	51.42	194
U.S. pop - autumn season:									
	0.000388	1.94	5148	0.003948	19.74	506	0.010177	50.88	196
U.S. pop - winter season:									
	0.000376	1.88	5324	0.003635	18.17	550	0.008082	40.41	247
Northeast region:									
	0.000432	2.16	4627	0.004025	20.12	496	0.009075	45.37	220
Midwest region:									
	0.000270	1.35	7412	0.002778	13.89	720	0.009154	45.77	218
Southern region:									
	0.000608	3.04	3289	0.004350	21.75	459	0.011190	55.95	178
Western region:									
	0.000526	2.63	3801	0.003450	17.25	579	0.008353	41.77	239
Hispanics:									
	0.000220	1.10	9104	0.002919	14.59	685	0.008529	42.64	234
Non-hispanic whites:									
	0.000388	1.94	5157	0.003596	17.98	556	0.008922	44.61	224
Non-hispanic blacks:									
	0.001056	5.28	1894	0.005240	26.20	381	0.016904	84.52	118
Non-hispanic other:									
	0.002508	12.54	797	0.005622	28.11	355	0.014599	73.00	136
All infants (<1 year):									

```
 0.000375   1.87    5336  0.001421   7.10    1407  0.007004  35.02    285
Nursing infants (<1 year):
 0.000141   0.71   14146  0.000985   4.92    2030  0.004873  24.37    410
Non-nursing infants (<1 yr):
 0.000445   2.23    4491  0.001614   8.07    1239  0.007605  38.02    262
Children (1-6 years):
 0.000645   3.23    3099  0.005132  25.66     389  0.019331  96.66    103
Children (7-12 years):
 0.000316   1.58    6332  0.003340  16.70     598  0.009278  46.39    215
Females (13+/preg/not nsg):
 0.000258   1.29    7739  0.004761  23.80     420  0.008529  42.65    234
Females (13+/nursing):
 0.000865   4.33    2311  0.004945  24.73     404  0.005649  28.25    354
Females (13-19 yrs/np/nn):
 0.000215   1.08    9298  0.003104  15.52     644  0.015428  77.14    129
Females (20+ years/np/nn):
 0.000446   2.23    4483  0.004131  20.65     484  0.009174  45.87    218
Females (13-50 years):
 0.000240   1.20    8323  0.003603  18.01     555  0.009173  45.87    218
Males (13-19 years):
 0.000344   1.72    5807  0.002979  14.89     671  0.007330  36.65    272
Males (20+ years):
 0.000386   1.93    5176  0.003723  18.61     537  0.007178  35.89    278
Seniors (55+):
 0.001441   7.20    1388  0.004421  22.10     452  0.009141  45.70    218
Pacific Region:
 0.000714   3.57    2801  0.003762  18.81     531  0.008563  42.82    233
```

<u>Attachment 5</u> (continued):

```
U.S. Environmental Protection Agency                    Ver. 6.78
DEEM ACUTE analysis for DIMETHOATE              (1989-92 data)
Residue file: dimeth-all-2.R96              Adjustment factor #2 used.
Analysis Date: 07-27-1999/08:27:05   Residue file dated: 07-27-1999/07:56:45/8
Acute Reference Dose (aRfD) =   0.020000 mg/kg body-wt/day
NOEL (Acute) =   2.000000 mg/kg body-wt/day
MC iterations =  1000   MC list in residue file   MC seed =   15
================================================================================
==========

U.S. pop - all seasons          Daily Exposure Analysis 1/
----------------------           (mg/kg body-weight/day)
                              per Capita    per User
                             -----------  -----------
```

```
Mean                    0.000177    0.000177
Standard Deviation      0.000829    0.000830
Margin of Exposure 2/    11,300     11,271
Percent of aRfD           0.88        0.89
```

Percent of Person-Days that are User-Days = 99.74%

Estimated percentile of user-days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding

Perc.	Exposure	% aRfD	MOE	Perc.	Exposure	% aRfD	MOE
90.00	0.000010	0.05	193,733	10.00	0.000152	0.76	13,200
80.00	0.000017	0.08	120,665	5.00	0.000422	2.11	4,742
70.00	0.000023	0.11	88,250	2.50	0.001830	9.15	1,092
60.00	0.000029	0.15	68,290	1.00	0.003904	19.52	512
50.00	0.000037	0.19	53,771	0.50	0.005235	26.18	382
40.00	0.000047	0.24	42,495	0.25	0.006929	34.65	288
30.00	0.000061	0.31	32,738	0.10	0.009753	48.76	205
20.00	0.000085	0.42	23,569				

Estimated percentile of per-capita days exceeding calculated exposure
 in mg/kg body-wt/day and corresponding

Perc.	Exposure	% aRfD	MOE	Perc.	Exposure	% aRfD	MOE
90.00	0.000010	0.05	198,316	10.00	0.000151	0.76	13,215
80.00	0.000016	0.08	121,607	5.00	0.000421	2.11	4,749
70.00	0.000023	0.11	88,679	2.50	0.001827	9.13	1,094
60.00	0.000029	0.15	68,529	1.00	0.003900	19.50	512
50.00	0.000037	0.19	53,919	0.50	0.005232	26.16	382
40.00	0.000047	0.23	42,587	0.25	0.006925	34.62	288
30.00	0.000061	0.30	32,796	0.10	0.009748	48.74	205
20.00	0.000085	0.42	23,603				

1/ Analysis based on all three-day participant records in CSFII 1989-92 survey.
2/ Margin of Exposure = NOEL/ Dietary Exposure.